

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

HID GLOBAL CORPORATION, and ASSA
ABLOY AB,

Plaintiffs,

v.

WAVELYNX TECHNOLOGIES
CORPORATION,

Defendant.

C.A. No. 22-362-VAC-JLH

JURY TRIAL DEMANDED

**DEFENDANT WAVELYNX TECHNOLOGIES CORPORATION’S ANSWER AND
COUNTERCLAIMS TO PLAINTIFFS’ AMENDED COMPLAINT
FOR PATENT INFRINGEMENT**

Defendant WaveLynx Technologies Corporation (“WaveLynx” or “Defendant”) hereby provides its Answer and Counterclaims to the Amended Complaint filed on June 12, 2022 by Plaintiffs HID Global Corporation (individually, “HID”), and ASSA ABLOY AB (individually, “AAAB”) (collectively, “Plaintiffs”). All allegations in Plaintiffs’ Amended Complaint that Defendant does not expressly admit or deny are hereby denied.

ANSWER

As set forth below, WaveLynx answers the allegations in Plaintiffs’ Amended Complaint (D.I. 12) by reproducing each of the pertinent headings therein and the corresponding paragraph numbering, if any, with the text of each of the pertinent paragraphs within the Amended Complaint, immediately followed by WaveLynx’s answer(s) thereto. WaveLynx’s reproduction herein of any material set forth in Plaintiffs’ Amended Complaint is solely for the purpose of convenience and is not, and should not be construed as, an admission by WaveLynx that any allegations or other

statements in the Amended Complaint, whether explicit or implied, are true, correct, or admitted by WaveLynx.

[NATURE OF THE ACTION]

1. **Plaintiffs and WaveLynx compete in the physical access control systems (“PACS”) industry. Plaintiffs are a leader in the PACS industry, and have developed a valuable ecosystem of products and acquired patents on this technology. WaveLynx has improperly made use of Plaintiffs’ patented technology, including United States Patent Nos. 7,439,862 (the “’862 patent”) and 8,943,562 (the “’562 patent”) (collectively “the Patents in Suit”). This infringement has resulted in Plaintiffs bringing this Complaint to hold WaveLynx responsible for its wrongdoing and to protect Plaintiffs’ innovations.**

ANSWER: Defendant admits that Plaintiffs and Defendant compete in the physical access control systems industry. Defendant denies that it has “improperly made use of Plaintiffs’ patented technology, including United States Patent Nos. 7,439,862 (the “’862 patent”) and 8,943,562 (the “’562 patent”), infringed any of Plaintiffs’ patent rights, or otherwise committed any wrongdoing. Defendant lacks sufficient knowledge to form a belief as to the truth or falsity of the remaining allegations in Paragraph 1 and therefore denies them.

[THE PARTIES]

2. **Plaintiff HID Global Corporation (“HID”) is a Delaware corporation, with its principal place of business at 611 Center Ridge Drive, Austin, TX 78753.**

ANSWER: Defendant lacks sufficient knowledge to form a belief as to the truth or falsity of the allegations in Paragraph 2 and therefore denies them.

3. **Plaintiff ASSA ABLOY AB (“AAAB”) is a company organized under the laws of Sweden with its principal place of business at Klarabergsviadukten 90, Stockholm, 111 64, Sweden.**

ANSWER: Defendant lacks sufficient knowledge to form a belief as to the truth or falsity of the allegations in Paragraph 3 and therefore denies them.

4. **On information and belief, WaveLynx Technologies Corporation is a Delaware corporation with its principal place of business at 100 Technology Drive Suite B130, Broomfield, CO, 80021.**

ANSWER: Defendant admits that it is a corporation organized and existing under the laws of the State of Delaware and that its principal place of business is at 100 Technology Drive Suite B130, Broomfield, CO, 80021.

[JURISDICTION AND VENUE]

5. This is an action for patent infringement arising under the patent laws of the United States, 35 U.S.C. § 271 *et seq.* This Court has subject matter jurisdiction over this action under 28 U.S.C. §§ 1331 and 1338.

ANSWER: Defendant admits that the Amended Complaint purports to allege claims for patent infringement arising under 35 U.S.C. § 271, but expressly denies any liability for patent infringement. The question of subject matter jurisdiction is a conclusion of law, rather than a statement of fact, to which no response is required. To the extent that a response is required, Defendant admits that the Court has subject matter jurisdiction over Plaintiffs' Patent Act claims, for the purposes of this action only; however, Defendant denies any liability for patent infringement related in any way to Plaintiffs' claims. Defendant denies any remaining allegations in Paragraph 5.

6. This Court has jurisdiction over WaveLynx because it is incorporated in this judicial district.

ANSWER: Defendant admits that it is a corporation organized and existing under the laws of the State of Delaware. The question of jurisdiction is a conclusion of law, rather than a statement of fact, to which no response is required. To the extent a response is required, Defendant admits that the Court has jurisdiction over it for purposes of this action only.

7. Venue is proper in this judicial district under 28 U.S.C. § 1400(b) because WaveLynx is incorporated in this judicial district.

ANSWER: Defendant admits that it is a corporation organized and existing under the laws of the State of Delaware. The question of venue is a conclusion of law, rather than a statement

of fact, to which no response is required. To the extent a response is required, Defendant admits that venue is proper in this judicial district for purposes of this action only.

[BACKGROUND]

8. **AAAB is the parent company of several entities worldwide that are leaders in the delivery of secure identity solutions for millions of customers throughout the world. These identity solutions are used in a variety of applications, including physical access control, logical access control, access card printing and personalization, highly secure government identification, and animal identification. These products, solutions, and services are sold through a well-established network of OEMs, developers, systems integrators, and distributors worldwide. End users of these products, solutions, and services include businesses and organizations in virtually all industry sectors, including government, healthcare, retail, industrial, commercial, consumer, airports, ports, finance, and education. AAAB is the ultimate parent company of HID.**

ANSWER: Defendant admits that AAAB sells products in the physical access control and identification industries. Defendant lacks sufficient knowledge to form a belief as to the truth or falsity of the remaining allegations in Paragraph 8 and therefore denies them.

9. **HID is a worldwide leader in trusted identity solutions. Its products range from physical access products, like ID cards and readers for opening doors, to solutions for accessing digital networks, verifying transactions, and tracking assets. Millions of people around the world use HID products and services to navigate their everyday lives, and over 2 billion things are connected through HID technology. HID Global has over 4,500 employees worldwide and operates international offices that support more than 100 countries.**

ANSWER: Defendant admits that HID sells products in the physical access control and identification industries. Defendant lacks sufficient knowledge to form a belief as to the truth or falsity of the remaining allegations in Paragraph 9 and therefore denies them.

10. **HID serves its clients by providing various products and solutions for a wide array of industries throughout the United States and across the globe.**

ANSWER: Defendant lacks sufficient knowledge to form a belief as to the truth or falsity of the allegations in Paragraph 10 and therefore denies them.

11. **HID is an innovator in the PACS industry. Many of the concepts and technologies used in today's PACS originated from HID. For example, in 2008, HID and**

Mercury Security were the original developers¹ of the Open Supervised Device Protocol (“OSDP”), which is a bidirectional communication protocol between an access control reader and control panel to replace older, less secure unidirectional Wiegand communications protocol. See <https://www.securityindustry.org/2012/10/02/security-industry-association-releases-sia-osdp-protocol/> and https://www.hidglobal.com/doclib/files/resource_files/plt-04025_a.0_-_hid-mercury_osdp_faq.pdf at 5. HID and Mercury Security (which HID acquired in 2017) are market-leading suppliers of OSDP access control panels. OSDP is now widely used standard within the PACS industry to facilitate access control communications and improve interoperability in modern day PACS.

ANSWER: Defendant admits that Wiegand is a unidirectional communication protocol and that OSDP is a bidirectional communication protocol. Defendant admits that OSDP is currently used in the personal access control systems industry, the standard for which Defendant is a contributor. Defendant further states that OSDP is not owned by any company and is not proprietary. Defendant lacks sufficient knowledge to form a belief as to the truth or falsity of the remaining allegations in Paragraph 11 and therefore denies them.

12. **WaveLynx is also a business providing PACS, including access control readers that operate over multiple communication standards and radio frequencies. WaveLynx was founded and is led by former HID employees, namely Jean-Hughes “Hugo” Wendling (CEO), Mike Conlin (COO), and Mike Malone (Senior Product Architect). WaveLynx competes with HID, and sells and seeks to sell its radio frequency identification (“RFID”) readers to various industry sectors, including those to which HID sells its products. As set forth below, certain WaveLynx products infringe the inventions that are disclosed and protected by the Patents in Suit.**

ANSWER: Defendant admits that it is a business that provides access control readers that operate over multiple communication standards and radio frequencies, and that it sells RFID readers to various industry sectors. Defendant admits that Jean-Hugues (Hugo) Wendling, Michael Conlin, and Mike Malone are former HID employees. Defendant admits that it was founded by its

¹ Codebench Inc. was a contributor to the OSDP standard development, and was acquired by HID in 2013.

current Chief Executive Officer, Hugo Wendling, and its current Chief Operating Officer, Mike Conlin. Defendant denies that Mike Malone co-founded WaveLynx, but admits that he is its Senior Product Architect and part of Defendant's leadership. Defendant admits that HID also sells RFID readers, but Defendant lacks sufficient knowledge to form a belief as to the truth or falsity of the allegations relating to the industry sectors in which HID operates and therefore denies this allegation. Defendant expressly denies liability for patent infringement. Defendant denies any remaining allegations in Paragraph 12.

13. **As former employees of HID, WaveLynx's founders were familiar with the technology developed and patented by HID. In fact, Mike Malone is named as an inventor on multiple patents assigned to Plaintiffs, including patents related to multi-frequency PACS readers, which is the subject of the '862 patent. WaveLynx knew the '862 patent at least as early as March 16, 2016, when it sought to license the '862 patent from Plaintiffs. Specifically, on March 16, 2016, Mike Conlin of WaveLynx contacted HID "to discuss licensing the appropriate IP around LF [low frequency] & HF [high frequency] combined readers." Ex. 1 at 3-4 (March 16, 2016 Email from Conlin to Bailin). On March 22, 2016, Plaintiffs offered WaveLynx a license to the '862 patent. Ex. 1 at 1-3 (March 22, 2016 Email from Bailin to Conlin). On information and belief, WaveLynx sought to license the '862 patent from Plaintiffs because WaveLynx knew that its products infringe the claims of the '862 patent. Specifically, in responding to Plaintiffs' license offer, Mike Conlin (with Hugo Wendling on copy) stated that "Unless you license all of the IP relevant to prox and multi-frequency readers then this agreement still leaves WaveLynx open to potential claims from HID at a future date." Ex. 1 at 2-3 (March 24, 2016 Email from Conlin to Bailin). WaveLynx, however, ultimately failed to obtain a license to the '862 patent or any other IP relevant to multi-frequency readers. On information and belief, WaveLynx has not has not taken any affirmative steps to avoid infringing the '862 patent.**

ANSWER: Defendant denies that it is familiar with Plaintiffs' patents and technology. Defendant lacks knowledge sufficient to form a belief as to the truth or falsity of whether Mike Malone is named as an inventor on any patents assigned to Plaintiffs. Defendant admits that it knew of the '862 patent as of March 22, 2016, when HID informed Defendant of the patent via email. Defendant further admits that what purports to be an email exchange between Mike Conlin and Daniel Bailin is attached to the Amended Complaint as Exhibit 1. Defendant admits that in March, 2016, Mike Conlin corresponded with HID to discuss potential licensing of "the

appropriate IP around LF & HF combined readers.” Ex. 1. Defendant admits that, as purportedly shown in Ex. 1, HID offered WaveLynx a license to the ’862 patent on March 22, 2016, but that HID did not agree to license the ’862 patent to Defendant in March, 2016, after Defendant offered to take a royalty-free license to the purported HID intellectual property, including the ’862 patent. Defendant admits that it discussed licensing all relevant intellectual property from HID in order to proactively try to avoid litigation with HID. Defendant denies that it has not “taken any affirmative steps to avoid infringing the ’862 patent.” In fact, at the time of the licensing negotiations between HID and WaveLynx in 2016 to the present, WaveLynx has disputed the validity of the ’862 patent and offered to accept a royalty-free license to the ’862 patent and the Corporate 1000 in order to “provide HID with the benefit of the market’s perception that there actually was legitimate IP there.” Ex. 1 at 2. Except as expressly admitted herein, Defendant denies any remaining allegations in Paragraph 13.

[THE PATENTS-IN-SUIT]

14. **AAAB is the assignee of the ’862 patent entitled “Antenna Array For An RFID Reader Compatible With Transponders Operating At Different Carrier Frequencies,” issued on October 21, 2008. See Ex. 2 (’862 patent). HID is the licensee of the ’862 patent.**

ANSWER: Defendant admits that the ’862 patent is entitled “Antenna Array For An RFID Reader Compatible With Transponders Operating At Different Carrier Frequencies,” and states that it was issued on October 21, 2008. Defendant admits that what purports to be a copy of the ’862 patent is attached as Exhibit 2 to the Amended Complaint. Defendant lacks sufficient knowledge to form a belief as to the truth or falsity of the remaining allegations in Paragraph 14 and therefore denies them.

15. **The ’862 Patent generally discloses, among other things, a RFID reader that includes at least two reader antennas that operate at different carrier frequencies. The reader antennas are arranged in a configuration that optimizes performance of the RFID system, while maintaining a compact size.**

ANSWER: Defendant admits that the '862 patent discloses an RFID reader that includes two antennas that operate at different frequencies. Defendant denies that the '862 patent discloses an RFID reader that includes more than two antennas. Defendant denies the remaining allegations in Paragraph 15.

16. **AAAB is the assignee of United States Patent No. 8,943,562 (the "'562 patent") entitled "Secure Wiegand Communications," issued on January 27, 2015. See Ex. 3 ('562 patent). HID is the licensee of the '562 patent.**

ANSWER: Defendant admits that what purports to be a copy of the '562 patent is attached as Exhibit 3 to the Amended Complaint and that the '562 patent is entitled "Secure Wiegand Communications" and states that it was issued January 27, 2015. Defendant lacks sufficient knowledge to form a belief as to the truth or falsity of the remaining allegations in Paragraph 16 and therefore denies them.

17. **The '562 Patent generally discloses, among other things, a credential reader capable of operating in a first mode and a second mode. The credential reader is capable of switching from a first mode to a second mode based on a message received from an upstream device. An advantage of the '562 patent is that two-way, packet mode communications can be achieved on existing hardware and wiring built for unidirectional Wiegand communication.**

ANSWER: Defendant lacks sufficient knowledge to form a belief as to the truth or falsity of the allegations in Paragraph 17 and therefore denies them.

[WAVELYNX'S INFRINGING PRODUCTS]

18. **WaveLynx knew that Plaintiffs' patented technology drive customer demand and are important to success in the PACS marketplace. Rather than invest in the expensive and time-consuming process necessary to develop its own technologies, WaveLynx decided to take a shortcut by improperly using Plaintiffs' proprietary technologies without Plaintiffs' consent, and even touted features incorporating Plaintiffs' technologies as key distinguishing features in attempts to sell WaveLynx products that compete directly with Plaintiffs' products.**

ANSWER: Defendant denies the allegations in Paragraph 18.

19. **WaveLynx's infringing products include WaveLynx's Ethos Readers, which incorporate Plaintiffs' patented multi-tech contactless access control technology to allow the**

readers to communicate over multiple frequencies and Plaintiffs' patented technology that allow the reader to switch between different modes of operation.

ANSWER: Defendant denies the allegations in Paragraph 19.

20. WaveLynx advertises its Ethos Readers as “multi-technology contactless access control readers” able to securely communicate data over multiple standard communications technologies. Ex. 4 (WaveLynx Ethos Datasheet *available at* <https://wavelynxtech.com/wp-content/uploads/2022/03/WL-EN-Ethos-Readers-DS-3.8-031022-1.pdf>) at 1. Such technologies include Proximity (125 kHz) Smart (13.56 MHz), often referred to respectively as low frequency/LF and high frequency/HF cards in the PACS industry, as well as Near-field communication (NFC) and Bluetooth²:



WaveLynx Technologies' Ethos line of multi-technology contactless access control readers offers a modern aesthetic and a state-of-the-art feature set. Standard technologies include Proximity (125 kHz), Smart (13.56 MHz), NFC, and Bluetooth®, so that customers can set their migration path to secure credentials and security ecosystems. All Ethos readers are fully OSDP™ compliant and are currently enabled for Secure Channel and remote firmware upgrades. Additionally, Ethos readers offer a unique patented feature called OSDP Auto-Detect. They communicate OSDP and Wiegand over the same wires to automatically detect and convert to OSDP Secure Channel protocol when the panel is upgraded, eliminating the need to rewire or reconfigure the reader.

Ex. 4 (WaveLynx Ethos Datasheet) at 1.

² The Bluetooth standard uses ultrahigh frequency (UHF) radio waves in the Industrial, Scientific and Medical (ISM) bands, i.e., 2.400–2.483.5 GHz. Notably, none of WaveLynx's equipment authorizations from the Federal Communications Commission ("FCC") include a grant of authority to operate in the ISM band.

			
FEATURES	Mullion Model ET10	Single Gang Model ET20	Keypad Model ET25
RF Technologies	Part Number	Part Number	Part Number
13.56 MHz	ET10-2WS	ET20-2WS	ET25-2WS
125 kHz & 13.56 MHz	ET10-3WS	ET20-3WS	ET25-3WS
13.56 MHz & Mobile	ET10-6WS	ET20-6WS	ET25-6WS
125 kHz, 13.56MHz, & Mobile	ET10-7WS	ET20-7WS	ET25-7WS

Ex. 4 (WaveLynx Ethos Datasheet) at 2.

ANSWER: Defendant admits that what purports to be the datasheet for the Ethos™ Readers is attached as Exhibit 4 to the Amended Complaint. Defendant admits that the Ethos Readers are “multi-technology contactless access control readers.” Defendant admits that some models of the Ethos Readers are able to securely (and separately) read credentials over multiple radio frequencies. Defendant admits that, depending on the model of the Ethos Reader and the parts it is equipped with, Ethos Readers may read data at standard technologies such as: “Proximity (125kHz), Smart (13.56MHz), NFC, and Bluetooth.” Defendant denies any remaining allegations in Paragraph 20.

21. At least ET10-3, ET20-3, ET25-3, ET10-7, ET20-7, and ET25-7 models of WaveLynx’s Ethos Readers (collectively “LF/HF Readers”) support HF (13.56 MHz) and LF (125 kHz) credentials. Of the LF/HF Readers, at least ET10-7, ET20-7, and ET25-7 models interoperate with NFC and Bluetooth communication protocols used in mobile devices, such as smartphones (collectively “LF/HF/Mobile Readers”). Further, ET10-5, ET20-5, and ET-25 models of WaveLynx’s Ethos Readers (collectively “LF/Mobile Readers”) support LF and Bluetooth credentials. Additionally, ET10-6, ET20-6, and ET25-6 models of WaveLynx’s Ethos Readers (collectively “HF/Mobile Readers”) also support HF, NFC, and Bluetooth credentials.

ANSWER: Defendant admits that the ET10-3, ET20-3, ET25-3, ET10-7, ET20-7, and ET25-7 support 13.56 MHz and 125 kHz credentials. Defendant admits that the ET10-7, ET20-7, and ET25-7 readers can read NFC and Bluetooth communication protocols. Defendant admits that certain versions of the ET25 support both 125 kHz and Bluetooth credentials. Defendant admits

that the ET10-6, ET20-6, and ET25-6 readers support 13.56 MHz (NFC) and Bluetooth credentials. Defendant denies the remaining allegations in Paragraph 21.

22. At least the LF/HF/Mobile Readers, LF/Mobile Readers, and HF/Mobile Readers (collectively “Mobile Readers”) interoperate with WaveLynx’s MyPass Mobile. In particular, WaveLynx’s MyPass Mobile is a mobile application that “securely stores your MyPass ID and communicates it securely to your access control system for authentication.” Ex. 5 (MyPass Mobile Datasheet *available at* <https://wavelynxtech.com/wp-content/uploads/2020/07/WL-EN-MyPass-Mobile-Credentials-DS-1.2-07072020.pdf>) at 1. WaveLynx’s MyPass Mobile interacts with the Mobile Readers to allow control of the door controller. Ex. 5 (MyPass Mobile Datasheet) at 1.



Ex. 5 (MyPass Mobile Datasheet) at 1. On information and belief, WaveLynx charges a price premium for its Mobile Readers compared to the non-mobile-capable readers.

ANSWER: Defendant admits that what purports to be the datasheet for the MyPass Mobile Credentials feature is attached as Exhibit 5 to the Amended Complaint. Defendant admits that MyPass Mobile is a mobile application that “securely stores your MyPass ID and communicates it securely to your access control system for authentication.” Defendant further admits that the Ethos Readers interoperate with WaveLynx’s MyPass Mobile by receiving authentication credentials from mobile devices that utilize MyPass Mobile over NFC or Bluetooth. Defendant admits that the Ethos Readers may be used to control access through a door. Defendant admits that MyPass Mobile may be used to control an Ethos Reader, including by locking a controlled door and managing credentials. Defendant denies any remaining allegations in Paragraph 22.

23. All WaveLynx Ethos Readers also offer LEAF credential support. Ex. 4 (WaveLynx Ethos Datasheet) at 1. LEAF is an open standard for credentials, which allows for end user customization of cryptographic keys. Ex. 6 (Smart Credentials available at

<https://wavelynxtech.com/products/smart-access-control-credentials/>) at 2-4. Through WaveLynx's Key Management service, WaveLynx allows its customers to manage their own LEAF Custom Cryptographic (LEAF Cc) keys. Ex. 7 (WaveLynx Key Management available at <https://wavelynxtech.com/products/key-management/>) at 1. In particular, WaveLynx's Key Management "makes owning your keys and provisioning them to devices of your choices an easy process to deploy." Ex. 7 (WaveLynx Key Management) at 1.

ANSWER: Defendant admits that what purports to be an overview of WaveLynx's smart credential compatibilities and an overview of WaveLynx's Key Management system are attached as Exhibits 6 and 7, respectively, to the Amended Complaint. Defendant admits that LEAF is an open standard for credentials that allows for user customization of cryptographic keys. Defendant admits that all WaveLynx Ethos Readers interoperate with LEAF credential support. Defendant admits that WaveLynx's Key Management allows for management of encryption keys and keysets, including those generated by WaveLynx (LEAF Cc keys). Defendant admits that WaveLynx's Key Management "makes owning your keys and provisioning them to devices of your choice an easy process to deploy." Defendant denies any remaining allegations in Paragraph 23.

24. **On information and belief, WaveLynx sells its Ethos Readers bundled with the MyPass Mobile or Key Management services. On information and belief, WaveLynx charges a price premium for WaveLynx's Ethos Readers bundled with the MyPass Mobile or Key Management services.**

ANSWER: Defendant admits that the MyPass Mobile or Key Management services may be used with the Ethos Readers. Defendant admits that it has various pricing plans that depend on which Ethos Readers a customer purchases and whether the customer also purchases Key Management services. Defendant denies the remaining allegations in Paragraph 24.

25. **WaveLynx further promotes the Ethos Readers as being capable of automatically switching between different modes of communication with the access control panel. The suffix "WS" in the Ethos Reader model numbers stand for Wiegand (unidirectional) and Serial (bidirectional) communication protocols. See Ex. 8 (WaveLynx Reader Order Guide available at <https://wavelynxtech.com/wp-content/uploads/2020/01/Reader-Order-Guide-3.2.pdf>) at 1. All Ethos Readers "with the WS**

designator and with firmware package 210 (and above) support OSDP® auto-detect” (collectively “OSDP Auto-Detect Readers”):

OSDP AUTO-DETECT FEATURE

The Ethos® Contactless Access Readers offer the patent-pending ‘OSDP® auto-detect’ feature.

This feature makes the readers automatically configure themselves from **Wiegand communication mode** to **OSDP communication mode, over the same two green and white wires.**

All reader part numbers with the WS designator and with firmware package 210 (and above) support OSDP® auto-detect. These readers are listed in the table below:

ET10 Mullion Reader	ET10-WS1	ET10-WS2	ET10-WS3	ET10-WS5	ET10-WS6	ET10-WS7
ET20 Single Gang Reader	ET20-WS1	ET20-WS2	ET20-WS3	ET20-WS5	ET20-WS6	ET20-WS7
ET25 Keypad Reader	ET25-WS1	ET25-WS2	ET25-WS3	ET25-WS5	ET25-WS6	ET25-WS7
Credential technologies	125 kHz	13.56 MHz	13.56 MHz, 125 kHz	Bluetooth®, 125 kHz	Bluetooth®, 13.56 MHz	Bluetooth®, 13.56 MHz, 125 kHz

Ex. 9 (OSDP Auto-Detect & Reader Reset Sequence *available at* <https://wavelynxtech.com/wp-content/uploads/2020/01/Ethos-OSDP-autodetect-and-Reset-Sequence-App-note-revA.pdf>) at 1.

ANSWER: Defendant admits that “WS” refers to “Wiegand/Serial.” Defendant admits that what purports to be a WaveLynx reader order guide is attached as Exhibit 8 to the Amended Complaint. Defendant further admits that Plaintiffs have accurately quoted Exhibit 9, however, Defendant denies that any Ethos Readers OSDP auto-detect features infringe the ’562 patent or that Exhibit 9, dated 2017 on its face, is provided or made available to customers. Defendant denies the remaining allegations in Paragraph 25.

26. WaveLynx’s misappropriation of Plaintiffs’ technologies has been crucial to WaveLynx’s attempts to compete with Plaintiffs. For example, WaveLynx introduces WaveLynx’s Ethos Readers by touting the “multi-technology contactless” technology that WaveLynx previously attempted to license. Ex. 4 at 1. WaveLynx’s OSDP Autodetect functionality, which improperly uses another of Plaintiffs’ patents is described as “a breakthrough in wall mount reader design.” Ex. 10 (Access Control Innovation *available at* <https://wavelynxtech.com/company/access-control-innovation/>) at 1.

ANSWER: Defendant admits that what purports to be an overview of WaveLynx's Access Control Innovation is attached as Exhibit 10 to the Amended Complaint. Defendant denies the allegations in Paragraph 26, including allegations of any misappropriation or wrongdoing.

[COUNT I: INFRINGEMENT OF THE '862 PATENT]

27. **Plaintiffs hereby incorporate by reference and reallege their allegations contained in all of the preceding paragraphs of this Complaint as though fully set forth herein.**

ANSWER: Defendant incorporates by reference herein its response to Paragraphs 1 through 26, above.

28. **Upon information and belief, WaveLynx has infringed and continues to infringe, either literally or under the doctrine of equivalents, at least claims 1–4 of the '862 patent pursuant to 35 U.S.C. §§ 271(a), (b), and (c) by making, using, offering to sell, or selling in the United States WaveLynx's Ethos Readers.**

ANSWER: Defendant denies the allegations in Paragraph 28.

29. **Claim 1 of the '862 patent is generally directed to a RFID reader that is able to communicate over different frequencies. Claim 1 recites:**

An antenna array for an RFID reader comprising:

a first reader antenna tuned to operate at a first low carrier frequency enabling data communication with a first transponder transmitting data signals at said first low carrier frequency; and

a second reader antenna tuned to operate at a second high carrier frequency different from said first low carrier frequency enabling data communication with a second transponder transmitting data signals at said second high carrier frequency, wherein the first and second antennas are oriented along axes that are substantially parallel to one another.

ANSWER: Defendant admits that Paragraph 29, in part, recites claim 1 of the '862 patent. Defendant denies any remaining allegations in Paragraph 29.

30. **Claim 2 recites:**

The antenna array of claim 1, wherein said first low carrier frequency is nominally 125 kHz.

ANSWER: Defendant admits that Paragraph 30 recites claim 2 of the '862 patent.

31. **Claim 3 recites:**

The antenna array of claim 2, wherein said second high carrier frequency is about 13.56 MHz.

ANSWER: Defendant admits that Paragraph 31 recites claim 3 of the '862 patent.

32. **Claim 4 recites:**

The antenna array of claim 1, further comprising a reader housing containing said first and second antennas.

ANSWER: Defendant admits that Paragraph 32 recites claim 4 of the '862 patent.

33. **At least the LF/HF Readers infringe at least claims 1–4 of the '862 patent, as illustrated in an exemplary claim chart attached hereto as Ex. 11. The radio frequencies over which WaveLynx's Ethos Readers are able to communicate include at least 13.56 MHz and 125 kHz. For example, the ET10-7 includes an antenna array on the back that is able to communicate at a low carrier frequency.**

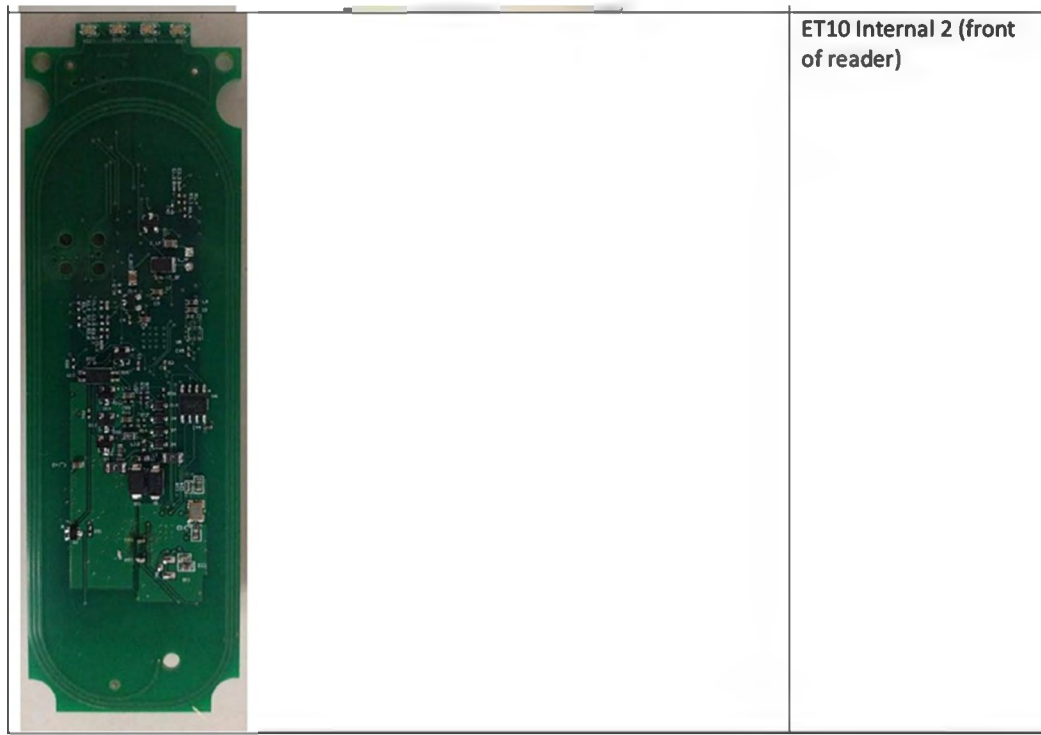


Ex. 12 (WaveLynx ET-10 Internal Photos Submitted by WaveLynx to FCC for equipment certification, FCCID 2AEI3WLTC-ET10-1357, April 9, 2018) at 1.

ANSWER: Defendant admits that the Ethos Readers ET10-7WS, ET20-7WS, and ET25-7WS are able to separately read credentials at 13.56 MHz and 125 kHz. Defendant admits that the Ethos Readers include antennas for radio communications. Defendant admits that what purports to be an exhibit WaveLynx submitted to the FCC Office of Engineering and Technology

that displays the internal view of the Ethos Reader ET10 is attached as Exhibit 12 to the Amended Complaint. Defendant admits that an antenna capable of reading credentials at 125 kHz is located in the ET10 reader. Defendant denies the remaining allegations in Paragraph 33.

34. **The ET10-7 also includes an antenna array on the front that is able to communicate at a high carrier frequency.**



Ex, 12 at 1.

ANSWER: Defendant admits that an antenna capable of reading credentials at 13.56 MHz is printed on the circuit board in the ET10 reader. Defendant denies any remaining allegations in Paragraph 34.

35. **The antenna tuned for low carrier frequency and the antenna tuned for high carrier frequency are orientated along axes that are substantially parallel to one another. For example, the antennas on the ET10-7 are located along either side of the PCB board for the reader.**

ANSWER: Defendant lacks sufficient knowledge to form a belief as to the truth or falsity of the allegations in Paragraph 35 and therefore denies them.

36. WaveLynx's Ethos Readers also include a reader housing that contains both antennas. For example, the ET10-7 has a reader housing that houses the PCB board on which the antenna tuned for low frequency communication and the antenna tuned for high frequency communication are located.

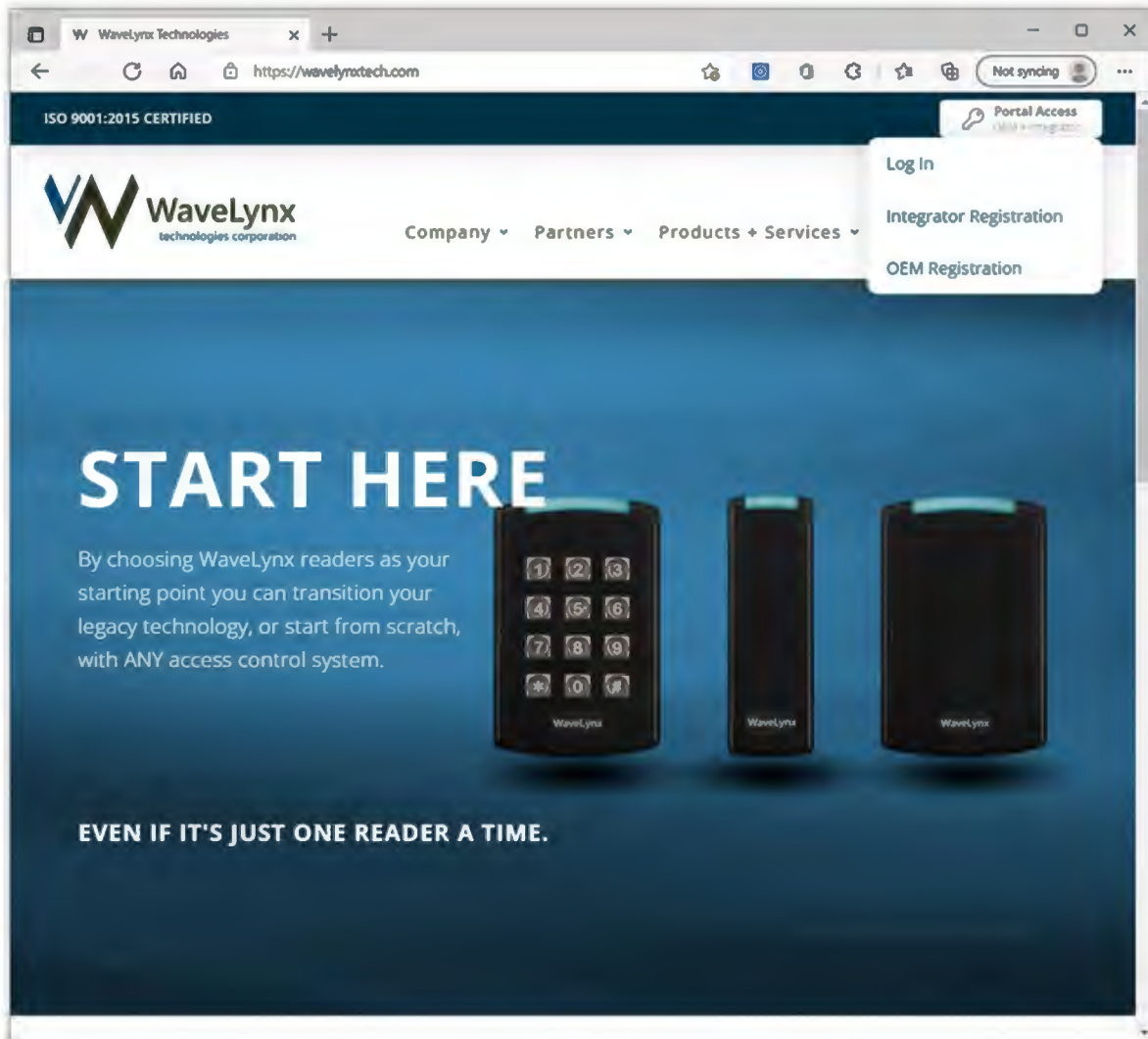


Ex. 13 (FCC ID: 2AEI3WLTC-ET10-1357, April 9, 2018, WaveLynx ET-10 External Photos Submitted by WaveLynx to FCC) at 1. Thus, at least WaveLynx's Ethos Readers directly infringe at least claims 1–4 of the '862 patent.

ANSWER: Defendant admits that what purports to be a document WaveLynx submitted to the FCC Office of Engineering and Technology that displays the external view of the Ethos Reader ET10 is attached as Exhibit 13 to the Amended Complaint. Defendant admits that the PCB and antennas for the Ethos Readers ET10-7WS, ET20-7WS, and ET25-7WS are encased in a housing. Defendant denies any remaining allegations in Paragraph 36.

37. Upon information and belief, WaveLynx has actively induced and continues to actively induce others, including third party vendors, who customize, use, and resell WaveLynx's Ethos Readers in the United States, to directly infringe claims of the '862 patent. On information and belief, purchasers who use WaveLynx's Ethos Readers make routine use of WaveLynx's Ethos Readers in a manner that directly infringes claims of the '862 patent, including at least claims 1–4. WaveLynx has had actual knowledge of the '862 patent at least as of March 16, 2016, the date when WaveLynx sought to license the '862 patent from Plaintiffs. Further, on information and belief, in light of the above, WaveLynx has provided and continues to provide at least manuals, training materials, technical

support, or other support, to encourage others, such as third party vendors, to perform acts that directly infringe at least claims 1–4 of the '862 patent either with specific intent that the third parties infringe the '862 patent or knowing that there was a high probability that the third parties would infringe the '862 patent while remaining willfully blind to the infringing nature of the third parties' actions. By way of example, WaveLynx provides online Portal Access to third parties to support its products.



Ex. 14 (WaveLynx Homepage available at <https://wavelynxtech.com/>) at 1. WaveLynx also provides manuals for WaveLynx's Ethos Readers. See Ex. 15 (WaveLynx Single Gang Installation Guide available at <https://wavelynxtech.com/wp-content/uploads/2021/10/WaveLynx-SG-KP-Install-Guide-Rev-3.4.pdf>); Ex. 16 (WaveLynx Mullion Installation Guide available at <https://wavelynxtech.com/wp-content/uploads/2021/10/WaveLynx-Mullion-Install-Guide-Rev-3.4.pdf>).

ANSWER: Defendant admits that what purports to be a screenshot of WaveLynx's website homepage is attached to the Amended Complaint as Exhibit 14. Defendant admits that it

knew of the '862 patent as of March 22, 2016, when HID informed Defendant of the patent via email. Defendant admits that it provides its customers and users of its products with manuals, training materials, technical support, and other types of support. Defendant further admits that it provides portal access support to third parties. Except as expressly admitted herein, Defendant denies the remaining allegations in Paragraph 37, including allegations of any infringement or wrongdoing.

38. Upon information and belief, WaveLynx has contributed and continues to contribute to infringement of the claims of the '862 patent, including at least claims 1–4, by others, including third party vendors, who customize, use, and resell WaveLynx's Ethos Readers, by providing WaveLynx's Ethos Readers, which are specially made or adapted for use in an infringement of claims 1–4 of the '862 patent and are not staple articles of commerce suitable for substantial noninfringing use. WaveLynx has had actual knowledge of the '862 patent at least as of March 16, 2016, the date when WaveLynx sought to license the '862 patent from Plaintiffs. In light of these allegations, WaveLynx had knowledge that WaveLynx's Ethos Readers were specially made or adapted for use in an infringement of the '862 patent and are not a staple article of commerce suitable for substantial noninfringing use.

ANSWER: Defendant admits that it knew of the '862 patent as of March 22, 2016, when HID informed Defendant of the patent via email. Defendant denies the remaining allegations in Paragraph 38, including allegations of any infringement or wrongdoing.

39. As a result of WaveLynx's ongoing and continuous unlawful infringement of the '862 patent, Plaintiffs have suffered and will continue to suffer damages, including but not limited to lost profits for direct and convoyed sales. Plaintiffs are entitled to recover from WaveLynx compensation and monetary relief to the fullest extent allowed by law, which has yet to be determined.

ANSWER: Defendant denies the allegations in Paragraph 39.

40. Any sales, offers for sale, or uses by WaveLynx of WaveLynx's Ethos Readers demonstrate a deliberate and conscious decision to infringe the '862 patent or, at the very least, a reckless disregard of Plaintiffs' patent rights. Given WaveLynx knew of the '862 patent and sought a license to the '862 patent from Plaintiffs, WaveLynx's infringement is willful and Plaintiffs are entitled to treble damages and attorney's fees and costs incurred in this action, along with prejudgment interest under 35 U.S.C. §§ 284, 285.

ANSWER: Defendant denies the allegations in Paragraph 40.

41. WaveLynx will continue to infringe the '862 patent unless and until it is enjoined by this Court. WaveLynx's acts of infringement have caused and will continue to cause irreparable harm to Plaintiffs until enjoined by this Court.

ANSWER: Defendant denies the allegations in Paragraph 41.

[COUNT II: INFRINGEMENT OF THE '562 PATENT]

42. Plaintiffs hereby incorporate by reference and reallege their allegations contained in all of the preceding paragraphs of this Complaint as though fully set forth herein.

ANSWER: Defendant incorporates by reference herein its response to Paragraphs 1 through 41, above.

43. Upon information and belief, WaveLynx has infringed and continues to infringe, either literally or under the doctrine of equivalents, at least claim 1 of the '562 patent pursuant to 35 U.S.C. §§ 271(a), (b), and (c) by making, using, offering to sell, or selling in the United States WaveLynx's Ethos Readers.

ANSWER: Defendant denies the allegations in Paragraph 43.

44. Claim 1 of the '562 patent is generally directed to a method whereby a personal security device gains access to a secure host device by securely releasing a credential. Claim 1 recites:

1. A communication method, comprising:

operating a credential reader in a first mode of operation, the credential reader comprising at least one of a microprocessor and firmware that enable the credential reader to operate in the first mode of operation;

receiving, at a communication interface of the credential reader, a message from an upstream device;

determining, by the credential reader, that the message was

transmitted by the upstream device; and

based on determining that the message was transmitted by the upstream device, transitioning the credential reader from the first mode of operation to a second mode of operation, wherein the first mode comprises a non-secure Wiegand mode and wherein the second mode comprises at least one of a secure Wiegand mode and a packet-mode.

ANSWER: Defendant admits that Paragraph 44, in part, recites claim 1 of the '562 patent. Defendant denies any remaining allegations in Paragraph 44.

45. As noted above, WaveLynx's Ethos Reader models number that end with "WS" suffix (collectively "OSDP Auto-Detect Readers") indicates that it has the OSDP Auto-detect feature:

ET10 Mullion Reader	ET10-WS1	ET10-WS2	ET10-WS3	ET10-WS5	ET10-WS6	ET10-WS7
ET20 Single Gang Reader	ET20-WS1	ET20-WS2	ET20-WS3	ET20-WS5	ET20-WS6	ET20-WS7
ET25 Keypad Reader	ET25-WS1	ET25-WS2	ET25-WS3	ET25-WS5	ET25-WS6	ET25-WS7
Credential technologies	125 kHz	13.56 MHz	13.56 MHz, 125 KHz	Bluetooth*, 125 kHz	Bluetooth*, 13.56 MHz,	Bluetooth*, 13.56 MHz, 125 kHz
Reset Sequence A	Amber Flash	Green Flash	Green Flash Amber Flash	Red Flash Amber Flash	Red Flash Green Flash	Red Flash Green Flash Amber Flash
Reset Sequence B	2 beeps (with a green LED Flash) indicate OSDP communication mode, or 4 beeps (with a green LED Flash) indicate Wiegand communication mode (with OSDP auto-detect)					

Ex. 9 (OSDP Auto-Detect & Reader Reset Sequence) at 2.

ANSWER: Defendant admits that the "WS" Field refers to "Wiegand/Serial."

Defendant denies any remaining allegations in Paragraph 45.

46. Use of any OSDP Auto-Detect Readers infringe at least claim 1 of the '562 patent, as illustrated in an exemplary claim chart attached hereto as Ex. 17.

ANSWER: Defendant denies the allegations in Paragraph 46.

47. WaveLynx's OSDP Auto Detect Readers allows the reader to detect OSDP communications and automatically switch from Wiegand to OSDP protocols.

OSDP™ Autodetect®

We are excited to announce a breakthrough in wall mount reader design. We offer a unique patented feature known as OSDP™ Autodetect®. We have invented a way to significantly simplify the transition from Wiegand to OSDP™. We have designed an auto-detection feature into our readers, further enriching the concept of not having to touch the reader again once it is installed. WaveLynx believes that all Physical Access Control Systems (PACS) will be communicating via OSDP™ eventually, so we have designed an OSDP™ auto detect feature, facilitating the automatic conversion from Wiegand protocol to OSDP™ using the existing wiring when the access control panel hardware is communicating in OSDP.

Ex. 10 (Access Control Innovation) at 2. Notably, WaveLynx promotes its OSDP Autodetect feature as allowing the use of existing wiring. Upon information and belief, WaveLynx’s reference to “existing wiring” means Wiegand wiring, which facilitates unidirectional communication from the reader to the access control panel.

What is the purpose of the ‘OSDP® auto-detect’ feature?

All you need is one reader: for OSDP panels, Wiegand panels, and for a seamless transition from a Wiegand panel to an OSDP panel.

Simply connect the green and white wires for either communication protocol: The reader communicates with any Wiegand panel out-of-the-box, and automatically upgrades to OSDP when it receives an OSDP message, without having to physically reconfigure, rewire or even touch the reader. For enhanced security, once the reader transitions to OSDP communication mode, it will no longer revert back to Wiegand communication mode.

Ex. 9 (OSDP Auto-Detect & Reader Reset Sequence) at 2.

ANSWER: Defendant denies the allegations in Paragraph 47.

48. As described in the ’562 patent, “[o]ne compelling aspect of the present invention is that it yields so many benefits without dramatically altering the Wiegand protocol. Not only are existing deployed hardware and wiring unchanged but the size and therefore the transmission properties of the message are not significantly changed.” Ex. 3 (’562 patent) at 14:1–5.

ANSWER: Defendant admits that Paragraph 48 recites column 14, lines 1 through 5, of the ’562 patent. Defendant denies any remaining allegations in Paragraph 48.

49. WaveLynx’s OSDP Auto-Detect Readers include firmware running on a microprocessor. Specifically, WaveLynx’s OSDP Auto-Detect Readers include at least the Microchip ATSAMD20J18 ARM Cortex M0 chip.

ANSWER: Defendant admits that some of its readers include an ATSAMD20J18 ARM Cortex M0 chip. Defendant denies any remaining allegations in Paragraph 49.

50. The OSDP Auto-Detect Readers “automatically configure themselves from Wiegand communication mode to OSDP communication mode”:

OSDP AUTO-DETECT FEATURE

The Ethos® Contactless Access Readers offer the patent-pending ‘OSDP® auto-detect’ feature.

This feature makes the readers automatically configure themselves from **Wiegand communication mode to OSDP communication mode, over the same two green and white wires.**

Ex. 9 (OSDP Auto-Detect & Reader Reset Sequence) at 1. The firmware for WaveLynx's OSDP Auto-Detect Readers defaults the readers, at power up, to using Wiegand mode for the communication of credential and keypad data. WaveLynx states that its OSDP Auto-Detect Reader "communicates with any Wiegand panel out-of-the-box," Ex. 9 (OSDP Auto-Detect & Reader Reset Sequence) at 2, and "4 beeps" during power-up sequence indicates that it is in the "Wiegand communication mode (with OSDP Auto-detect)." *Id.* This Wiegand mode with OSDP Autodetect is described as the default, starting mode for OSDP Auto-Detect Readers:

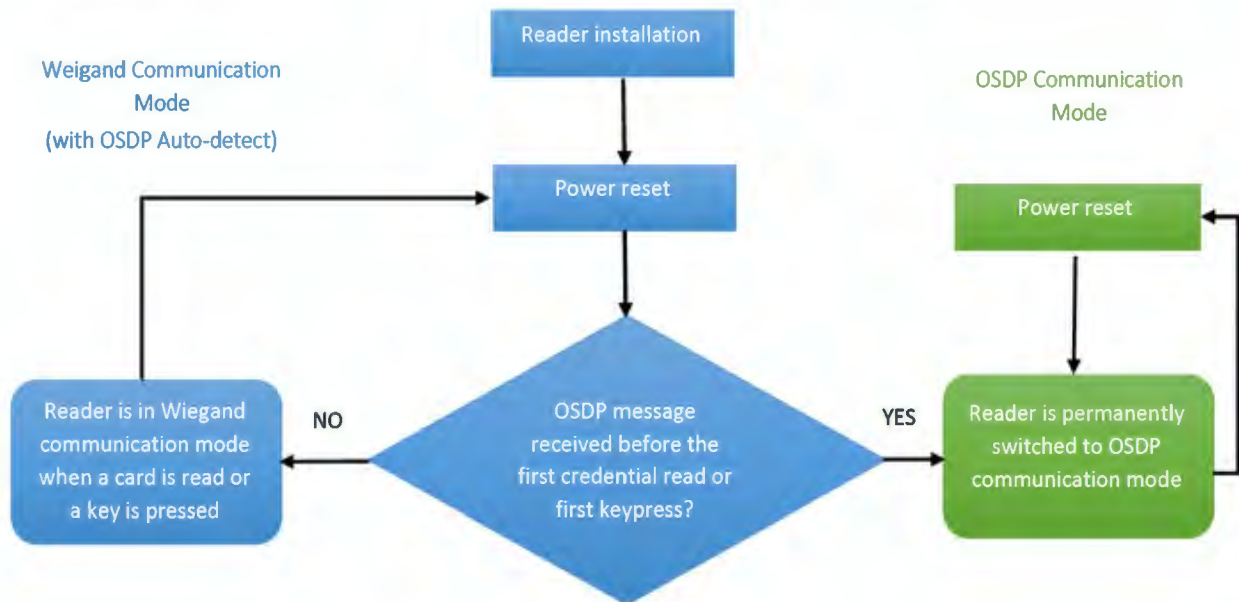
Installation tips:

- By default, the reader will transmit credential and keypad data in Wiegand communication mode.
- The reader always be listening for an incoming OSDP message. If a message is received during this period, the reader will automatically switch to OSDP-only communication mode.
- When connecting the reader to an OSDP panel connect the Green wire to RS485A(TR+), and the White wire to RS485B (TR-).
- To return to OSDP auto-detect mode (default mode), tilt the reader 45 degrees to simulate tamper and cycle power in this state. The power up sequence should indicate OSDP auto-detect with 4 beeps.
- In OSDP the readers default baud rate is 9600 and starts up at Address 0. Baud rate and Address can be reset by performing the same tamper startup mentioned above.
- Once the reader's default OSDP Key has been changed, only the panel can relink to a new OSDP Key.

Ex. 15 (WaveLynx Single Gang Installation Guide) at 2; see also Ex. 16 (WaveLynx Mullion Installation Guide) at 2. WaveLynx's OSDP Auto-Detect Readers then listen for an incoming OSDP message from an OSDP control panel. If the OSDP message is received before the first credential or keypad entry, the OSDP message will cause the WaveLynx Ethos Readers to switch to OSDP-only mode. OSDP is a two-way packet-based communication protocol. Thus, WaveLynx's Ethos Readers directly infringe at least claim 1 of the '562 patent.

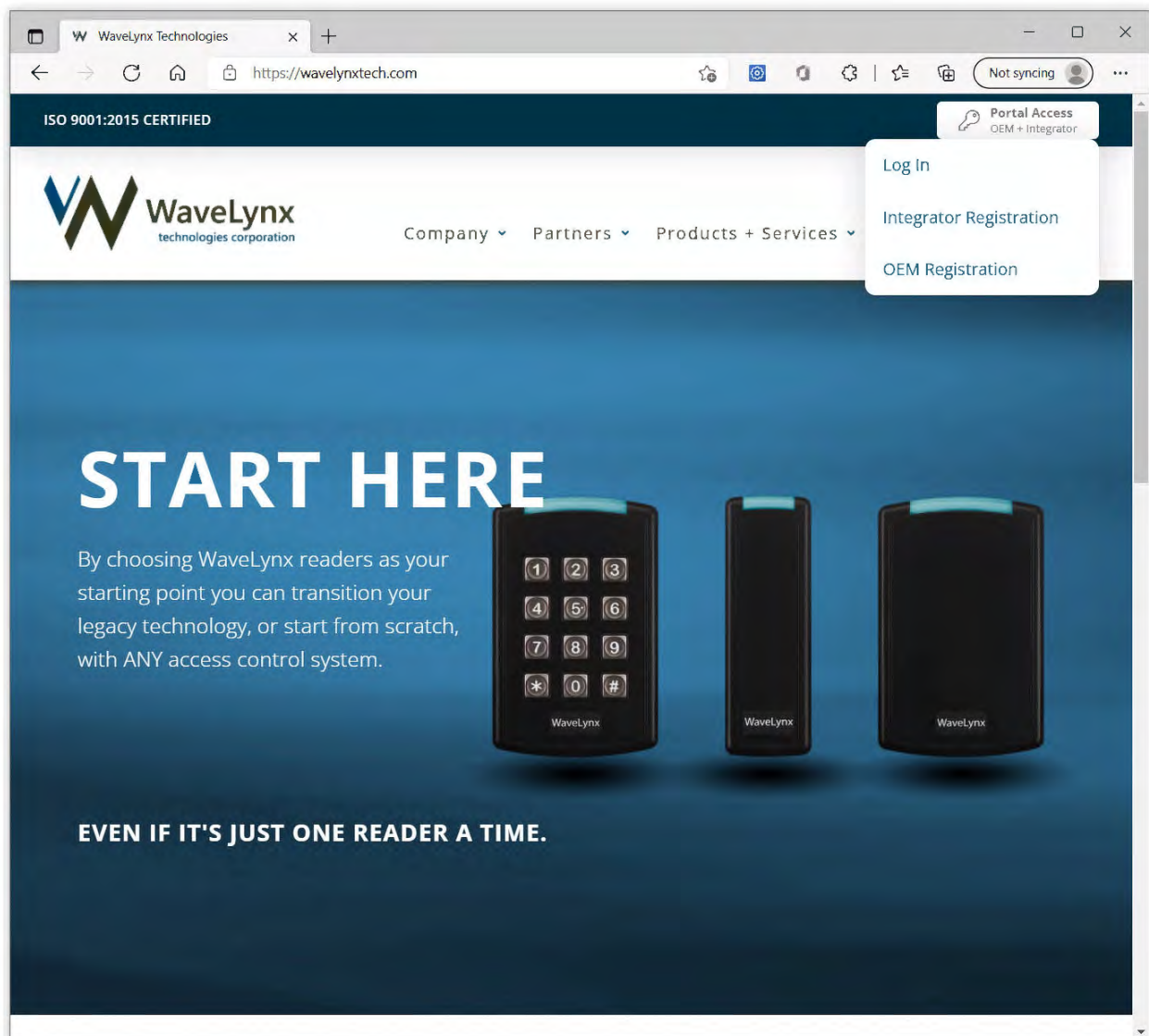
How does the reader detect OSDP?

By default (out-of-the-box) the reader will transmit credential and keypad data in Wiegand communication mode. Upon each power up, and before the reader reads a credential or a key is pressed, the reader will be listening for an incoming OSDP message. If a message is received during this period, the reader will automatically, and permanently switch to OSDP communication mode. This diagram describes how this feature works:

**Ex. 9 (OSDP Auto-Detect & Reader Reset Sequence) at 2.**

ANSWER: Defendant admits that what purports to be installation guides for its Single Gang and Mullion-style readers are attached to the Amended Complaint as Exhibits 15 and 16, respectively. Defendant admits that Plaintiffs have accurately quoted Exhibit 9, but denies that Exhibit 9 accurately describes the functionalities of the Ethos Readers. In fact, Defendant states that the document attached as Exhibit 9, dated 2017, is not included with any Ethos Reader sold, or made available through WaveLynx Website. See <https://wavelynxtech.com/products/ethos-access-control-readers/>. Defendant denies that the Ethos Readers are in a “Wiegand mode” upon installation. Defendant further denies infringement of any claim of the ’562 patent, including claim 1. Defendant further denies that the Ethos Readers switch from a “Wiegand mode” to an OSDP mode upon receiving an upstream message. Defendant denies the remaining allegations in Paragraph 50, including allegations of any infringement or wrongdoing.

51. Upon information and belief, WaveLynx has actively induced and continues to actively induce others, including third party vendors, who customize, use, and resell WaveLynx's Ethos Readers in the United States, to directly infringe claims of the '562 patent. On information and belief, use of WaveLynx's Ethos Readers directly infringe at least claim 1 of the '562 patent. WaveLynx has had actual knowledge of the '562 patent at least as of June 12, 2022, the date on which this complaint is filed. Further, on information and belief, in light of the above, WaveLynx has provided and continues to provide at least manuals, training materials, technical support, or other support, to encourage others, such as third party vendors, to perform acts that directly infringe at least claim 1 of the '562 patent either with specific intent that the third parties infringe the '562 patent or knowing that there was a high probability that the third parties would infringe the '562 patent while remaining willfully blind to the infringing nature of the third parties' actions. By way of example, WaveLynx provides online Portal Access to third parties to support its products.



Ex. 14 (WaveLynx Home Page). WaveLynx also provides manuals for WaveLynx's Ethos Readers. See Ex. 15 (WaveLynx Single Gang Installation Guide); Ex. 16 (WaveLynx Mullion Installation Guide).

ANSWER: Defendant admits that it knew of the '562 patent as of June 12, 2022, when Plaintiffs filed their Amended Complaint. Defendant admits that it provides customers with technical support, such as making product data sheets and installation manuals available through its website. Defendant further admits that it provides portal access support to third parties. Except as expressly admitted herein, Defendant denies the remaining allegations in Paragraph 51, including allegations of any infringement or wrongdoing.

52. Upon information and belief, WaveLynx has contributed and continues to contribute to infringement of the claims of the '562 patent, including at least claim 1, by others, including third party vendors, who customize, use, and resell WaveLynx's Ethos Readers, by providing WaveLynx's Ethos Readers, which are specially made or adapted for use in an infringement of claim 1 of the '562 patent and are not staple articles of commerce suitable for substantial noninfringing use. WaveLynx has had actual knowledge of the '562 patent at least as of June 12, 2022, the date on which this complaint is filed. In light of these allegations, WaveLynx had knowledge that WaveLynx's Ethos Readers were specially made or adapted for use in an infringement of the '562 patent and are not a staple article of commerce suitable for substantial noninfringing use.

ANSWER: Defendant admits that it knew of the '562 patent as of June 12, 2022, when Plaintiffs filed their Amended Complaint. Defendant denies the remaining allegations in Paragraph 52, including allegations of any infringement or wrongdoing.

53. As a result of WaveLynx's ongoing and continuous unlawful infringement of the '562 patent, Plaintiffs have suffered and will continue to suffer damages, including but not limited to lost profits for convoyed sales. Plaintiffs are entitled to recover from WaveLynx compensation and monetary relief to the fullest extent allowed by law, which has yet to be determined.

ANSWER: Defendant denies the allegations in Paragraph 53.

54. Any sales, offers for sale, or uses by WaveLynx of WaveLynx's Ethos Readers demonstrate a deliberate and conscious decision to infringe the '562 patent or, at the very least, a reckless disregard of Plaintiffs' patent rights.

ANSWER: Defendant denies the allegations in Paragraph 54.

55. **WaveLynx will continue to infringe the '562 patent unless and until it is enjoined by this Court. WaveLynx's acts of infringement have caused and will continue to cause irreparable harm to Plaintiffs until enjoined by this Court.**

ANSWER: Defendant denies the allegations in Paragraph 55.

[MARKING]

56. **Plaintiffs have marked products with the '862 patent number in compliance with 35 U.S.C. § 287.**

ANSWER: Defendant lacks sufficient knowledge to form a belief as to the truth or falsity of the allegations in Paragraph 56 and therefore denies them.

[EXCEPTIONAL CASE]

57. **This case is exceptional against WaveLynx.**

ANSWER: Defendant denies that this is an exceptional case against WaveLynx.

GENERAL DENIAL

Defendant denies each and every allegation, express or implied, contained in Plaintiffs' Amended Complaint that is not specifically admitted and denies any wrongdoing.

[PRAYER FOR RELIEF]

Plaintiffs' "Prayer for Relief" does not require a response. To the extent that a response is needed, Defendant denies that Plaintiffs are entitled to any relief whatsoever, including, without limitation, the relief listed in its Prayer for Relief.

WAVELYNX'S DEFENSES

Defendant hereby realleges and incorporates by reference, as if fully set forth herein, its responses and any allegations, affirmative statements, and affirmative denials set forth in Paragraphs 1-57, above. Without admitting or acknowledging that it bears the burden of proof as to any of them, Defendant asserts at least the following defenses to Plaintiffs' claims. Defendant

reserves all other defenses at law or in equity that may exist now or in the future based upon discovery or further investigation.

FIRST DEFENSE: FAILURE TO STATE A CLAIM

Plaintiffs have failed to state a claim upon which relief can be granted and/or have failed to plead the allegations with sufficient particularity or plausibility.

SECOND DEFENSE: NON-INFRINGEMENT

Defendant does not and has not infringed, under any theory, any valid or enforceable claim of the '862 patent or the '562 patent. Further, Plaintiffs' Amended Complaint fails to identify or explain where each limitation of the '862 patent claims is found in Defendant's Ethos Readers or the steps purportedly performed by the Ethos Readers that meet the limitations of the '562 patent claims or the alleged direct infringers of the the'562 patent. Defendant's Ethos Readers do not satisfy each limitation of the '862 patent claims or the '562 patent claims, either literally or under the doctrine of equivalents. Defendant also does not and has not indirectly infringed any valid or enforceable claim of the '862 patent or the '562 patent. For example, Defendant has not encouraged or been aware of any purported direct infringement by others. The allegations of Counterclaim Count IV are repeated, re-alleged, and incorporated herein by reference.

THIRD DEFENSE: INVALIDITY

The claims of the '862 patent and the '562 patent are invalid for failure to comply with at least sections 101, 102, 103, and 112 of Title 35 of the United States Code and the rules, regulations, and laws pertaining thereto. Additionally, the claims of the '862 patent are invalid because Ralph Quan, the purported inventor named on the patent, did not invent the subject matter claimed in the '862 patent because, for example, he derived it from another and/or is not the

inventor. The allegations of the Counterclaim Counts I and II are repeated, re-alleged, and incorporated herein by reference.

FOURTH DEFENSE: NO WILLFUL INFRINGEMENT OR EXCEPTIONAL CASE

Plaintiffs are not entitled to enhanced or increased damages for willful infringement under 35 U.S.C. § 284, or recovery of attorneys' fees under 35 U.S.C. § 285, because Defendant has not engaged in any conduct that meets the applicable standard for willful infringement and has always acted in good faith. For example, since learning of the '862 patent, Defendant has believed that it is invalid and informed HID of such belief but HID refused to address validity concerns, including prior invention by employees of XceedID Corporation, of which Plaintiffs were aware. Additionally, as pled herein, the '862 patent is both invalid and unenforceable. The allegations of the Counterclaim Counts I-III are repeated, re-alleged, and incorporated herein by reference. As such, Plaintiffs cannot establish any intent to infringe any valid and enforceable claim of the '862 patent. Further, Defendant first learned of the existence of the '562 patent on June 12, 2022, when Plaintiffs filed their Amended Complaint. As such, Plaintiffs cannot establish any intent to infringe any valid and enforceable claim of the '562 patent. Indeed, as pled herein, the '562 patent is both not infringed and invalid, making willful infringement an impossibility. The allegations of the Counterclaim Counts IV is repeated, re-alleged, and incorporated herein by reference.

FIFTH DEFENSE: PROSECUTION HISTORY ESTOPPEL

As a result of the proceedings before the United States Patent and Trademark Office during the prosecution of the applications leading to the '862 and the '562 patents and/or any related applications, including the admissions, representations, and amendments made on behalf of the application, Plaintiffs are estopped, under at least the doctrine of prosecution history estoppel, from construing any allegedly infringed claim of the '862 or the '562 patents to cover or include under

the doctrine of equivalents any product, system, or service of, or any method performed in whole or in part by, Defendant.

SIXTH DEFENSE: EQUITABLE DOCTRINES

Plaintiffs' claims are barred, in whole or in part, by the equitable doctrines of waiver, acquiescence, estoppel, unclean hands, and/or other equitable doctrines. For example, by early-2016, Defendant communicated to HID that it believed it did not need to pay for a potential license to the '862 patent and that the '862 patent was invalid. Potential license negotiations ended thereafter and, despite assurances that HID would attempt to re-open such discussions in the event it was ever considering a lawsuit, HID never contacted Defendant again and filed this case without warning nearly six (6) years later in March 2022. Similarly, the '562 patent issued in 2015, but was never raised by HID as part of the 2016 negotiations despite Plaintiffs indicating the inclusion of other patents in the contemplated license. Plaintiffs have now asserted this previously unknown patent as part of the June 12, 2022 Amended Complaint over six (6) years later against the same accused products as in the original complaint.

SEVENTH DEFENSE: LIMITATIONS ON DAMAGES

Plaintiffs' claims for damages are barred, in whole or in part, by 35 U.S.C. §§ 286, 287, and/or 288. Plaintiffs have failed to adequately plead compliance with the patent marking statute, 35 U.S.C. § 287(a). Therefore, Plaintiffs' claims for pre-suit damages based on alleged infringement by Defendant of the '862 patent is barred. Similarly, Defendant had no pre-suit notice of the '562 patent, limiting any potential recovery for infringement of that patent. Plaintiffs also are not entitled to any damages related to bundled products or convoyed sales.

EIGHTH DEFENSE: INEQUITABLE CONDUCT AND UNCLEAN HANDS

Plaintiffs' claims are barred, in whole or in part, because all claims of the '862 patent are unenforceable based on the doctrines of inequitable conduct and/or unclean hands. The allegations of Counterclaim Count III are repeated, re-alleged, and incorporated herein by reference. Further, by virtue of licensing and attempting to license the '862 patent, which HID knew was invalid and/or unenforceable, to Defendant and other third parties, HID has acted with fraud, deceit, and/or bad faith and improperly harmed competition and the industry. Further, HID has acted unconscionably in suing Defendant for Defendant's refusal to pay for a license to the invalid '862 patent that HID intentionally and improperly sought to cover prior inventions, including those of Michael Conlin and/or other employees of XceedID Corporation. HID also acted in bad faith by not mentioning the potential applicability of the '562 patent during the parties' prior negotiations.

NINTH DEFENSE: LOST PROFITS NOT RECOVERABLE

Plaintiffs are not entitled to recover any purported lost profits because Plaintiffs did not plead or allege the loss of any profits as a result of lost sales caused by Defendant selling an allegedly infringing product, nor did Plaintiffs plead or allege the absence of non-infringing substitutes or Plaintiffs' capability to exploit demand, among other elements of a lost profits claim.

TENTH DEFENSE: LACK OF STANDING

Plaintiff HID lacks standing to bring this suit as a plaintiff. Plaintiffs have failed to plead that HID is the *exclusive* licensee of the '862 or the '562 patents and that it has all substantial rights to the patents. Non-exclusive licensees, like HID, do not have standing to sue for alleged patent infringement (or recover anything).

ELEVENTH DEFENSE: UNAVAILABILITY OF INJUNCTIVE RELIEF

Plaintiffs are not entitled to injunctive relief or any other equitable relief at least because any alleged injury to Plaintiffs is not irreparable and because, had Plaintiffs been injured, it would have an adequate remedy at law in the form of monetary damages. Plaintiffs further have licensed at least the '862 patent to others, showing that damages would be sufficient to satisfy any injury alleged by Plaintiffs, though Defendant denies that Plaintiffs suffered any injury.

TWELFTH DEFENSE: PATENT MISUSE

Plaintiffs' claims are barred, in whole or in part, by the doctrine of patent misuse. For example, Plaintiffs knew that the '862 patent was not granted in accordance with the requirements of Title 35 of the United States Code. By threatening Defendant and, on information and belief, other RFID manufacturers with litigation unless they agreed to license the invalid '862 patent, Plaintiffs have caused an anti-competitive effect by stifling the industry and extracting unwarranted royalties from competitors.

RESERVATION OF FURTHER DEFENSES

Defendant reserves any and all rights to amend its Answer, Defenses, and Counterclaims to Plaintiffs' Amended Complaint and to assert additional defenses, as they become apparent during discovery proceedings, including issues related to the open OSDP standard.

WAVELYNX'S COUNTERCLAIMS
OF PATENT INVALIDITY, UNENFORCEABILITY, AND NONINFRINGEMENT

Pursuant to Federal Rule of Civil Procedure 13, WaveLynx Technologies Corporation (“WaveLynx” or “Counterclaimant”) asserts the following counterclaims against HID Global Corporation (individually, HID) and ASSA ABLOY AB (individually, AAAB) (collectively, “Counterdefendants”) as follows:

I. Parties

1. Counterclaimant WaveLynx is a corporation organized and existing under the laws of the State of Delaware with its principal place of business at 100 Technology Drive Suite B130, Broomfield, CO, 80021.

2. Upon information and belief based, Counterdefendant ASSA ABLOY AB is a corporation organized and existing under the laws of Sweden with its principal place of business at Klarabergsviadukten 90, Stockholm, 111 64, Sweden.

3. Upon information and belief, Counterdefendant HID Global Corporation is a corporation organized and existing under the laws of Delaware, with its principal place of business at 611 Center Ridge Drive, Austin, TX 78753.

II. Jurisdiction and Venue

4. Counterdefendants filed a lawsuit against WaveLynx alleging that WaveLynx infringes or has infringed U.S. Patent No. 7,439,862 (“the ’862 patent”).

5. WaveLynx denies that it infringes or has infringed any valid or enforceable claim of the ’862 patent and asserts that the ’862 patent is invalid and unenforceable.

6. Subsequently, Counterdefendants amended their complaint, asserting that WaveLynx also infringes U.S. Patent No. 8,943,562 (“the ’562 patent”). *See* D.I. 12.

7. WaveLynx denies that it infringes or has infringed any valid or enforceable claim of the '562 patent and/or '862 patent. Based on the foregoing, there is an actual, immediate, and justiciable controversy between Counterdefendants and WaveLynx as to the infringement, validity, and enforceability of the '862 and '562 patents.

8. This is an action for declaratory relief pursuant to 28 U.S.C. §§ 2201 and 2202 of invalidity and unenforceability of the '862 patent under the United States patent laws, Title 35 of the United States Code.

9. Counts I through IV of these Counterclaims arise under the patent laws of the United States, 35 U.S.C. § 1 *et seq.*, and the Declaratory Judgment Act, 28 U.S.C. §§ 2201-2202. The Court has subject matter jurisdiction over these Counterclaims pursuant to 28 U.S.C. §§ 1331, 1338, and 2201-2202.

10. Counterdefendants have consented to personal jurisdiction and venue in this district by filing the Amended Complaint in this action in this Court. As such, Counterdefendants are subject to personal jurisdiction in this Court and venue is proper.

III. Overview

11. This lawsuit is Counterdefendants' latest attempt in a decades-long series of unfounded and baseless attempts to harass competitors, including the founders of WaveLynx. WaveLynx is an established innovator that develops and sells products that are far superior to Counterdefendants' products.

12. In their Amended Complaint, Counterdefendants allege that certain WaveLynx technology—namely, dual- or multi-frequency RFID readers that operate at frequencies of 125 kHz or 13.56 MHz—infringe claims 1-4 of the '862 patent.

13. However, by alleging infringement by WaveLynx's RFID readers, Counterdefendants are asserting that the '862 patent reads on technology that was available in the

public domain before the filing of the application for the '862 patent. For example, the industry—including the founders of WaveLynx—developed dual- and multi-frequency RFID readers at the very same 125 kHz and 13.56 MHz frequencies before the filing of the application for the '862 patent in 2004. In fact, such technology was invented and marketed by the founders of WaveLynx by 2003, while at their previous company—XceedID Corporation (“XceedID”).

14. Worse, before filing this lawsuit, Counterdefendants knew that dual- and multi-frequency RFID readers were in the public domain before the filing date of the application for the '862 patent. Indeed, HID's former Global Director of Technology, Intellectual Property, Michael Davis, publicly presented the details and use of identical technology in a 2003 National Institute of Standards and Technology (“NIST”) workshop. Counterdefendants also knew that XceedID conceived, developed, and filed for patent protection for the same invention before the filing of any application related to the '862 patent was filed.

15. Even worse, Counterdefendants knowingly concealed this and other known prior art and prior invention from the U.S. Patent Office during prosecution of the applications related to the '862 patent. This information is material to patentability of the claims of the '862 patent, which would not have issued but-for Counterdefendants' intentional concealment of the known prior art in order to gain allowance of claims covering this very prior art, including at least claims 1-4 of the '862 patent.

16. Accordingly, Counterdefendants filed this lawsuit knowing both that the '862 patent is invalid and that it was obtained by committing fraud on the U.S. Patent Office. Therefore, at least claims 1-4 of the '862 patent are invalid in view of the prior art, every claim of the '862 patent is unenforceable, and this case is exceptional under 35 U.S.C. § 285.

17. Unexpectedly, and without notice, Counterdefendants amended their complaint on Sunday June 12, 2022—the day before WaveLynx’s answer was originally due—to assert the ’562 patent.

18. As with the ’862 patent, when Counterdefendants filed this lawsuit, they knew, or at least should have known, that WaveLynx does not infringe the ’562 patent and that the ’562 patent is invalid. Accordingly, this is another reason why this case is exceptional under 35 U.S.C. § 285.

IV. Background on WaveLynx and XceedID

19. Jean-Hugues (Hugo) Wendling (“Wendling”) and Michael T. Conlin (“Conlin”), founded WaveLynx in 2011. By the time they founded WaveLynx, they had between them about 25 years of experience in the industry, including based on their prior experience working at HID and at the first company they founded, XceedID. Throughout their careers, Wendling and Conlin have taken a different business approach than HID. For example, Wendling and Conlin have worked, both at XceedID and WaveLynx, to develop RFID readers that are based on an open format, unlike HID, which designs its readers and credentials to operate on allegedly proprietary data formats.

20. As detailed further below, this lawsuit is not the first time that Counterdefendants have embroiled Conlin and Wendling—founders of WaveLynx—in unjustified litigation concerning the very same technology at issue in the present case. And as also detailed further below, some of the pleadings and case materials from those prior cases provide important context and establish vital facts detrimental to Counterdefendants’ present suit.

21. As HID pled in an earlier lawsuit involving Conlin: “Beginning in 1998, Conlin was employed by HID and HID’s predecessor in interest to work on behalf of HID as an electrical engineer. . . . From his employment in 1998, until his resignation on July 30, 2003, the same day

that he gave notice of resignation, Conlin was heavily involved in the development, implementation, use and sale of HID's 125 KHz and 13.56 MHz RFID security access products." Ex. A, ¶¶ 23-25.

22. As HID pled in an earlier lawsuit involving Wendling: "Beginning in 1999, Wendling was employed by HID and HID's predecessor in interest to work on behalf of HID as an engineer. . . . From 1999 until his resignation on August 6, 2003, Wendling was heavily involved in the development, implementation, use and sale of HID's RFID security access products." *Id.*, ¶¶ 26-28.

23. Upon departing HID in 2003, Wendling and Conlin formed XceedID, a start-up company in the contactless technology market.

A. Development of XceedID's Dual-Frequency RFID Reader and Related IP

24. XceedID independently designed and developed its own products and invested substantially in developing its pioneering multi-frequency RFID technology.

25. By mid-August 2003, Conlin had conceived of a dual-frequency RFID reader with a 125 kHz antenna and a 13.56 MHz antenna on the same printed circuit board. Conlin and Wendling promptly developed a commercial embodiment of this dual-frequency RFID reader around the same time. RFID readers that used Conlin's design would be sold by both XceedID, as the XF1100, XF2100, and XF2110 readers (the "XF Series Readers"), and by and General Electric Security ("GES") in the GES Transition Series Readers, starting in 2004.

26. Conlin's invention led to the filing of two provisional patent applications on March 15, 2004: U.S. Provisional Patent Application No. 60/553,677 (the "'677 application" or "Conlin's '677 application"), and U.S. Provisional Application No. 60/553,685 (the "'685 application"). The '677 application included images of multi-frequency readers designed by XceedID, including the GES Transition Series Readers.

27. Conlin assigned the provisional patent applications to XceedID.

28. HID was aware by no later than April 2005 that XceedID had developed dual-frequency RFID readers and had filed patent applications on them. Ex. B, at 8; *see also* Ex. A, ¶¶ 42-47 (further establishing knowledge by March 2006).

29. XceedID ultimately obtained several U.S. patents on its inventions relating to dual-frequency RFID readers, including U.S. Patent Nos. 7,676,839, 7,900,253, 8,407,775, 9,142,069, 9,361,740, 9,680,837, and 9,830,758.

XceedID XF Series and GES Transition Series Reader

30. The XceedID XF Series Readers and the GES Transition Series Readers exemplify and embody XceedID and Conlin's inventions that are disclosed in the '677 and '685 applications.

31. In September 2004, XceedID launched a dual-frequency RFID reader for its customer GES, called the Transition Series. As stated in one of its exemplary data sheets, the GES Transition Series Reader featured "simultaneous compatibility with multi-vendor credential technologies—GE and HID 125 kHz Proximity, HID Corporate 1000 Proximity, 13.56 MHz contactless smart card technologies for MIFARE® Card Serial Number (ISO 14443A), MIFARE/DESFire Card Serial Number, and Vicinity Card Serial Number (ISO 15693), including HID iCLASS® Card Serial Number—all in one reader." Ex. C, at 1.

32. To avoid a lawsuit with HID over the compatibility of the Transition Series Readers with these HID formats, GES obtained a license from HID to "HID 125 kHz Proximity [and] HID Corporate 1000 Proximity" formats.

33. The GES Transition Series Readers developed by XceedID were received very favorably in the market. For example, on September 27, 2004, Security Infowatch.com hailed the GES Transition Series Readers as "revolutionary . . . multi-technology card readers." Ex. D, at 1. Security Infowatch.com also described how the GES Transition Series Readers "are multivendor

125KHz proximity compatible with GE and HID Proximity cards as well as contactless smart cards that meet Mifare (ISO14443A) and Vicinity (ISO 15693) standards.” *Id.* at 2.

34. The GES Transition Series Readers also were awarded the 2004 Frost & Sullivan Award for Product Innovation.

35. XceedID obtained FCC approval for its own branded dual frequency readers no later than October 2004. XceedID began selling its XF Series Readers in January 2005, including the following: the XF1100, XF2100, and XF2110 readers. The XF Series Readers were described in the ’677 application and used the same design as the GES Transition Series.

C. Sale of XceedID and Creation of WaveLynx

36. In 2008, XceedID was sold to Ingersoll Rand, which then became Allegion in 2013. Wendling and Conlin continued to work for Ingersoll Rand, including on RFID reader technology, until 2011.

37. In 2011, after departing from Ingersoll Rand, Wendling and Conlin founded WaveLynx.

38. WaveLynx prides itself on developing high quality physical access security systems that are open and interoperable. For example, through Leaf Cc, WaveLynx’s customers are able to select data transfer formats, credential management services, or credential cards from any company that participates in Leaf Cc for use with WaveLynx RFID readers. WaveLynx sells several product lines of RFID tags and readers, and it also sells credential management services, including Key Management.

39. Continuing to advance the state of the art, WaveLynx has obtained patent protection on its inventions. For example, WaveLynx is the assignee of U.S. Patent Nos. 9,558,377, 9,747,738, 10,102,700, 10,467,830, and 10,553,054. WaveLynx also is the assignee of U.S. Application No. 16/365,946, which is published as U.S. Publication. No. 2020/0312065.

40. Since 2016, WaveLynx has seen substantial growth in sales, experiencing approximately 100% year over year growth.

41. Counterdefendants are aware of WaveLynx's substantial success. In fact, because WaveLynx buys physical credentials from HID, Counterdefendants have direct visibility of WaveLynx's significant growth over the last few years.

42. Counterdefendants, on the other hand, have not experienced the same success. In fact, it is known in the industry that Counterdefendants' sales have declined in recent years. For example, on information and belief, just in the last year, Counterdefendants have encountered supply issues and have been unable to provide products to their customers, which have forced some of those customers to source products elsewhere.

V. Counterdefendants' Prior Efforts to Stifle Competition

43. Counterdefendants, from what they allege in their Amended Complaint, are dominant players in the industry. On information and belief, HID currently controls a significant portion of the market in which HID and WaveLynx compete.

44. However, rather than competing fairly in the market, Counterdefendants have shown a pattern and practice of filing lawsuits against their competitors in an apparent effort to stifle competition.

45. For example, shortly after Wendling and Conlin founded XceedID in 2003, HID—viewing them as a competitive threat—initiated two lawsuits against XceedID, Wendling, and Conlin related to the same RFID reader technology at issue in this case.

46. On information and belief, HID's Michael Davis and Tam Hulusi were the driving force at HID in bringing those lawsuits against XceedID and its employees.

^AHID's First Lawsuit Against XceedID

47. On October 5, 2004, HID and Identification Technology Group (“ITG”), a subsidiary of HID, filed a lawsuit against XceedID, Conlin, and Wendling in Colorado state court (the “Colorado XceedID lawsuit”) for alleged trade secret misappropriation.

48. The complaint for the Colorado XceedID lawsuit was signed by Todd Blakely of Sheridan Ross P.C.

49. HID alleged that “[i]n the late Fall of 2003” it had learned from customers that XceedID was designing “RFID security access readers for customers that would replicate or be compatible with HID’s iClass RFID products and/or HID controllers used to control the operation of HID Prox products.” Ex. E, ¶ 32.

50. iClass RFID products operate at 13.56 MHz and Prox products operate at 125 kHz.

51. On information and belief, HID initiated the Colorado XceedID lawsuit because it believed that XceedID’s dual-frequency readers posed a competitive threat to the sale of HID’s proximity cards and readers.

52. In the complaint, HID alleged that “[o]n or about September 17, 2004, ITG discovered that XceedID had designed and engineered a universal card reader for General Electric Security, part of GE Infrastructure, that is capable of reading HID’s RFID security access cards.” *Id.* ¶ 33.

53. Thus, before filing the application for the ’862 patent on December 16, 2004, HID was fully aware of XceedID’s dual-frequency readers with two antennas.

54. Then, on October 22, 2004—less than three months after initiating the Colorado XceedID lawsuit—HID withdrew the complaint. On information and belief, HID withdrew their complaint because it learned that XceedID’s products were not compatible with HID credentials.

55. After withdrawing their lawsuit, HID also continued to closely monitor XceedID's products and business activities. For example, in August of 2005, representatives of HID met with representatives of XceedID to discuss XceedID's XF Series Readers. HID representatives included Tam Hulusi (HID Global's Senior Vice President of Strategy and Innovation), Michael Davis (HID Global's Director of Technology, Intellectual Property), and attorney Todd Blakely of the law firm Sheridan Ross P.C. At this meeting, Hulusi, Davis, and attorney Blakely brought with them a datasheet for an XceedID XF Series Reader.

HID's Second Lawsuit Against XceedID

56. HID, along with AAAB, then filed a second lawsuit against XceedID on December 21, 2006, this time in the United States District Court for the Central District of California, C.A. No. 06-1245 (the "CDCA XceedID lawsuit"). Counterdefendants initially alleged violations of the Lanham Act, and later amended their complaint to assert trade secret misappropriation on May 9, 2007. Ex. A.

57. As part of this second lawsuit, HID pled that it knew of XceedID's dual-frequency RFID reader. *Id.* ¶¶ 42-45. HID further pled that by March 2006, it knew of XceedID's patent applications directed to multi-frequency RFID readers filed on March 15, 2004, including the '677 application. *Id.* ¶¶ 44-45.

58. XceedID filed counterclaims against Counterdefendants on July 16, 2007, including claims that HID engaged in unfair competition and that HID had violated anti-trust laws. Ex. F. In this filing, XceedID also admitted to HID that "it had invented two products by March 15, 2004" and that "it filed two provisional patent applications on March 15, 2004." *Id.* ¶¶ 44-45.

59. XceedID and Counterdefendants settled their disputes and agreed to dismiss all claims with prejudice on January 29, 2008, including any allegations of purported trade secret misappropriation by Conlin and Wendling or other former HID employees.

60. This second lawsuit was terminated on February 6, 2008.

C. Counterdefendants' Attempts to Block Other Competitors

61. Counterdefendants also have engaged in improper attempts to block competition from other competitors in the industry. For example, HID asserted the '862 patent, along with U.S. Patent No. 5,952,935 (the "'935 patent"), which has now expired, in at least three separate lawsuits against other competitors. *See, e.g., HID Global Corporation et al v. Isonas, Inc. et al*, C.A. No. 13-01301 (CDCA); *HID Global Corporation et al v. Applied Wireless Identifications Group, Inc. et al*, C.A. No. 13-01272 (CDCA); *HID Global Corporation, et. al. v. Farpointe Data Inc., et. al.*, C.A. No. 10-01954 (CDCA). All of these cases were resolved before trial.

62. In the *Farpointe* case, it came to light that HID destroyed up to eight (8) boxes of documents from the purported inventor of the '862 patent, Ralph W. Quan ("Quan"). *See id.*, Dkt. 290 at 2-3. These destroyed documents contained information relating to Quan's alleged conception of the subject matter claimed in the '862 patent, including his notebooks.

63. On March 21, 2012, the court in the *Farpointe* case ordered HID to "disclose when the documents in the eight boxes of Quan's belongings were shredded, who shredded the documents, which documents were shredded, and at whose direction were the documents shredded." *See id.*, Dkt. 290 at 10.

64. In response to the court's order, HID filed multiple declarations on March 29, 2012, at least one of which revealed that Michael Davis was involved in the review and eventual shredding of at least some of the documents in the eight boxes.

65. Counterdefendants, and particularly HID, have also used tactics other than lawsuits to try to influence customers and limit competition in the industry.

66. For example, Counterdefendants falsely mark technical documents, such as HID datasheets, with numbers of expired patent(s), such as U.S. Pat. No. 5,952,935. An example of

such false marking on a 2019 document can be found at <https://www.hidglobal.com/sites/default/files/pacs-multiclass-se-readers-ds-en-r1.pdf> (last accessed June 1, 2022).

67. Unfortunately, HID's tactics appear to have forced some of HID's competitors to license HID's patents, including the '862 patent, such as one or more of the defendants involved in HID's prior lawsuits.

68. Further, on information and belief, HID is believed to have tried to stifle competition from WaveLynx by telling others in the industry, including WaveLynx customers, that WaveLynx will not prevail in the instant lawsuit.

VI. WaveLynx's Good Faith Attempt to Avoid Disputes with HID

69. In view of HID's litigious history, WaveLynx reached out to HID in 2015 to proactively avoid any potential disputes, including by discussing the possibility of licensing intellectual property from Counterdefendants. The only reason WaveLynx reached out to Counterdefendants was to avoid a future lawsuit—not because WaveLynx believed that HID held valid intellectual applicable to WaveLynx's RFID readers.

70. Despite knowing that WaveLynx contacted HID for the express purpose of avoiding future litigation through licensing, at no point during the negotiations from late 2015 to 2016 did HID raise the issue of licensing the '562 patent to WaveLynx, even though the '562 patent issued in January of 2015.

71. The purported email exchange between WaveLynx and HID is attached as Exhibit 1 to the Amended Complaint, however, it does not contain a complete record of the discussions between HID and WaveLynx regarding the '862 patent.

72. These discussions began in November 2015 when Conlin informed Daniel Bailin ("Bailin") of HID that WaveLynx planned to enter the access control business, including selling

multi-frequency readers using low frequencies (*e.g.*, 125 kHz) and high frequencies (*e.g.*, 13.56 MHz).

73. On March 22, 2016, HID, acting through Bailin, offered WaveLynx a license to the '862 patent and use of HID's "Corporate 1000" ("C1000") allegedly proprietary data format for a running royalty of \$6 per reader.

74. On March 24, 2016, Conlin responded by informing Bailin that WaveLynx was perplexed because, while the discussions had been ongoing for months, March 22 was the first time that HID raised the potential licensing of C1000. Conlin expressed concern that HID was not negotiating in good faith.

75. WaveLynx declined HID's March 22, 2016 offer and countered with a proposal for a royalty-free license.

76. After continued back-and-forth, on April 29, 2016, Bailin again threw a wrench in the negotiations and raised for the first-time including licensing of unspecified trade secrets and unspecified existing and future patents in an attempt to justify HID's proposed \$6 license fee.

77. On July 8, 2016, Conlin emailed Bailin, expressing frustration that HID, through Bailin, had not responded to repeated follow up inquiries. Conlin stated that because discussions "have been ongoing for 7 months and HID has changed its position several times your lack of response leaves me with no other conclusion then HID is not negotiating in good faith. WaveLynx remains interested in a license of legitimate HID IP but we cannot proceed unless you engage in the discussion. At this point, this email will be my last communication with you personally unless you respond."

78. HID and WaveLynx did not subsequently agree to any license.

79. During the licensing discussions, WaveLynx also attempted to discuss the invalidity of the '862 patent with HID, but Bailin refused to discuss any issues relating to whether the '862 patent was actually a valid patent.

80. Further, when meeting in-person, Bailin on behalf of HID assured WaveLynx that HID will contact WaveLynx before taking any sort of potential legal action. HID, however, did not subsequently contact WaveLynx regarding the '862 patent (or any other patent) until Plaintiffs initiated this lawsuit against WaveLynx approximately six (6) years later.

VII. The '862 Patent

81. The '862 patent issued on October 21, 2008 from Application No. 11/016,576 (the "'576 application"), which is a continuation-in-part ("CIP") of Application No. 10/848,246 (the "'246 application"). The '576 application was filed on December 16, 2004, and the '246 application was filed on May 18, 2004.

82. On information and belief, the claims that eventually issued in the '862 patent were drafted in an attempt to capture known prior art, including XceedID's pre-existing devices, such as the XceedID XF Series Readers and the GES Transition Series Readers.

83. Counterdefendant AAAB is named as the assignee on the face of the '862 patent.

84. The '862 patent states in the Background of the Invention that "[a]t present, use of RFID transponders operating at the low carrier frequency and RFID transponders operating at the high carrier frequency have proliferated throughout the world." D.I. 12, Ex. 2, col. 2, ll. 22-25.

85. The '862 patent further states that "the present invention recognizes a need for an RFID system having one or more RFID readers, each of which is capable of communicating with a plurality of RFID transponders, one or more of which are operating at a different carrier frequency than the remaining RFID transponders." *Id.* at col. 2, ll. 30-35.

86. The '862 patent further states that it is “an object of the present invention to provide an RFID system having one or more RFID readers with multiple carrier frequency communication capabilities.” *Id.* at col. 2, ll. 36-38.

87. The '862 patent concedes that there are “[e]xemplary RFID systems,” and that there “are currently two standard carrier frequencies which have been generally accepted for use in RFID systems. RFID systems, which employ RFID transponders of the type conventionally termed proximity cards or proximity tags, typically communicate by means of data signals at a carrier frequency within a range of 100 to 150 kHz. . . . In contrast, RFID systems employing RFID transponders of the type conventionally termed smart cards typically communicate by means of data signals at a carrier frequency of 13.56 MHz, which is deemed high frequency. The frequency bandwidth available for use around the carrier frequency of 13.56 MHz is defined by industry-wide standards such as ISO standards 15693 and 14443.” *Id.* at col 1, ll. 29-30; col. 2, ll. 7-21.

88. The '862 patent further admits that “[a]t present, use of RFID transponders operating at the low carrier frequency and RFID transponders operating at the high carrier frequency have proliferated throughout the world.” *Id.* at col 2, ll. 22-24.

89. As a continuation-in-part application, the '576 application contains new matter not contained in the original '246 application.

90. New matter that first appears in the '576 application is claimed in the claims of the '862 patent, including claims 1-4.

91. For example, the original '246 application does not disclose at least that “the first and second antennas are oriented along axes that are substantially parallel to one another.”

92. Further, the figures that appear in the '862 patent were first filed with the U.S. Patent Office on December 16, 2004, when the '576 application was filed.

93. Thus, the earliest possible priority date for claim 1 of the '862 patent, and any claim that depends from claim 1, is December 16, 2004.

94. The '862 patent will expire no later than March 10, 2025.

95. As set forth herein, Counterdefendants knew, or at least should have known, that the '862 patent was invalid and unenforceable before initiating this lawsuit against WaveLynx.

96. Counterdefendants' conduct in filing this lawsuit and asserting infringement of the '862 patent against WaveLynx has caused and is continuing to cause harm to WaveLynx.

VIII. The '562 Patent

97. The '562 patent issued on January 27, 2015, naming Michael Davis as one of its purported inventors.

98. Counterdefendant AAAB is named as the assignee on the face of the '562 patent and has never asserted the '562 patent in a lawsuit prior to the filing of the Amended Complaint.

99. The '562 patent states in the Background that “[t]he Wiegand protocol is the predominant method by which physical access control card readers communicate with upstream devices such as local controllers, access control panels and host computer systems. Because of the popularity and almost universal support of the Wiegand protocol in access control panels, other devices besides access control readers are also available that support the Wiegand protocol.” D.I. 12, Ex. 3, col. 1, ll. 22-28. Indeed, the '562 patent explains that “[t]he widespread adoption of the Wiegand protocol is due to several advantages with the primary advantages of the Wiegand protocol being that its implementation in devices is very economical and that it allows very long cable runs which, depending on the gage of the wire used, can be as long as 500 feet.” *Id.* at col. 1, ll. 57-62.

100. The '562 patent further states that “[a]lthough other methods are utilized for carrying the informational aspects of the Wiegand protocol over communication bearers such as

RS-485, F/2F, and various Internet protocols such as TCP/IP and UDP, none has achieved the widespread usage that Wiegand has in the security and access control market segments. This is primarily because each manufacturer utilizes their own proprietary protocols even when using standardized communication bearers such as TCP/IP.” *Id.* at col 1, ll. 48-56.

101. Counterdefendants’ conduct in filing this Amended Complaint and asserting the ’562 patent against WaveLynx has caused and is continuing to cause harm to WaveLynx.

COUNTERCLAIM COUNT I

DECLARATORY JUDGMENT OF INVALIDITY OF THE ’862 PATENT UNDER 35 U.S.C. § 102(g)(2) and § 102(e)

102. WaveLynx incorporates the foregoing paragraphs and allegations as if set forth herein.

103. The ’862 patent is invalid under 35 U.S.C. § 102(g)(2) (pre-AIA) because, before the alleged invention thereof, the invention was conceived and reduced to practice by Conlin, who did not abandon, suppress, or conceal it. Conlin, while working at XceedID, conceived and reduced to practice the subject matter claimed in claims 1-4 of the ’862 patent prior to HID’s filing of any application related to the ’862 patent. Conlin’s prior invention is described in the ’677 application, which itself is invalidating prior art under 35 U.S.C. § 102(e) (pre-AIA).

104. Specifically, on or about August 22, 2003, Michael Conlin conceived of an RFID reader that is able to read cards at 125 kHz and 13.56 MHz, in a housing that contains two separate antenna structures, one for each frequency.

105. An internal invention disclosure summary for Conlin’s multi-frequency contactless reader and certification testing was completed by December 2003. In addition, a specification for Conlin’s multi-frequency reader was completed by January 2004, and prototype circuit boards and antennas were ordered by March 2004.

106. XceedID filed the '677 provisional patent application on March 15, 2004, which described his dual frequency RFID reader and constituted constructive reduction to practice by this date. The '677 application discloses all limitations of at least claims 1-4 of the '862 patent.

107. XceedID further developed working embodiments of Conlin's invention over the spring and summer of 2004, with GES's dual frequency reader ultimately coming to market in September 2004. Ex. F, ¶ 9.

108. The '677 application also is prior art to the '862 patent under 35 U.S.C. § 102(e) because it was filed on March 15, 2004, which is before any filing date for which the '862 patent may claim priority.

109. The '677 application discloses, for example, that the "present invention relates generally to access control readers and more specifically to modular contactless smart card access control readers." Ex. G, at 2. The '677 application further discloses that "[t]his invention and the main components can operate collectively as a physical access control reader. In one embodiment, the system includes functionality at both 125 KHz and 13.56 MHz." *Id.* at 7. "[T]he attached figures illustrate a modular contactless smart card access control reader, which comprises A base assembly, a cover assembly and a communication adaptor." *Id.* at 6.

110. Figure 10 of the '677 application also discloses that in one embodiment, "the base reader board contains the antenna for one frequency," and "the snap-on cover contains the antenna for the other frequency."

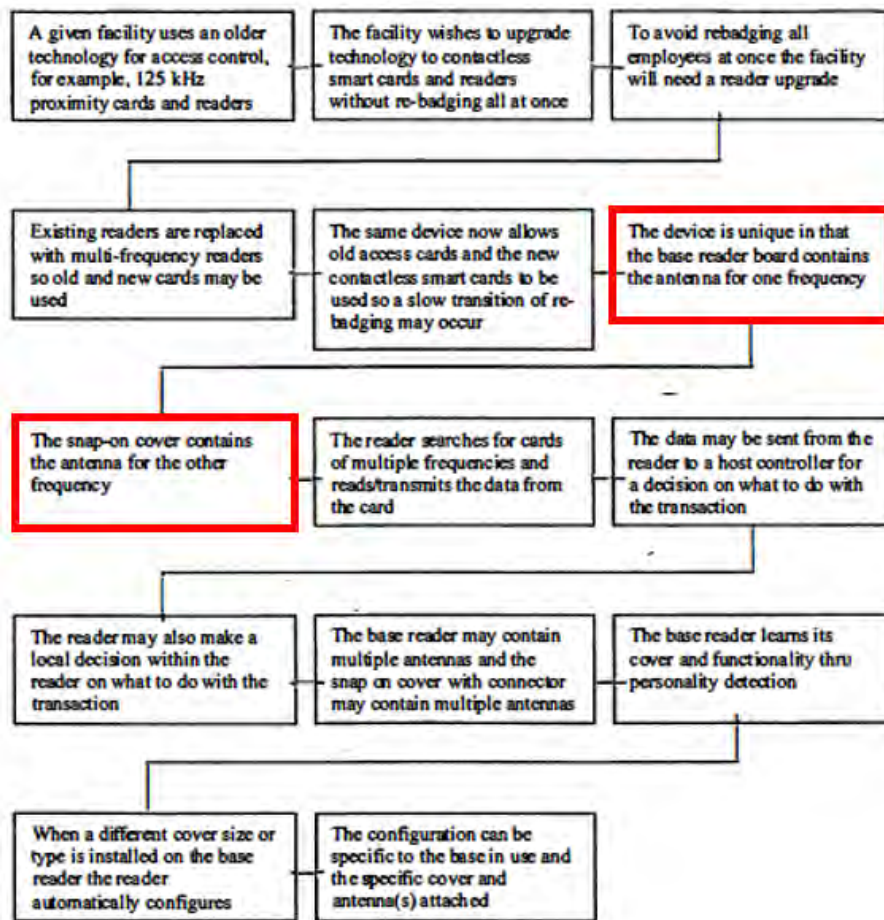
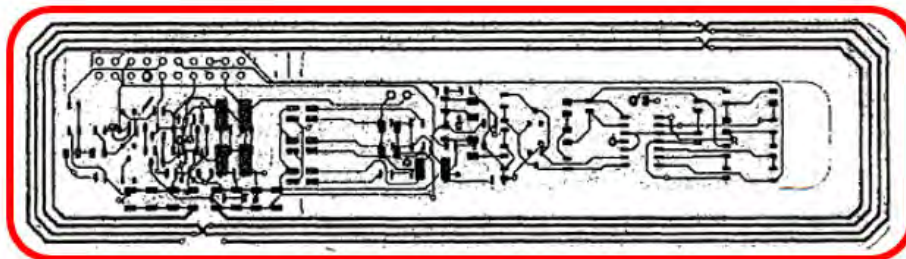


FIG. 10 illustrates yet another method in accordance with some embodiments of the present invention.

Id. at 14 (annotated).

111. One antenna is located along the external perimeter of a printed circuit board, as shown in the annotated image below.

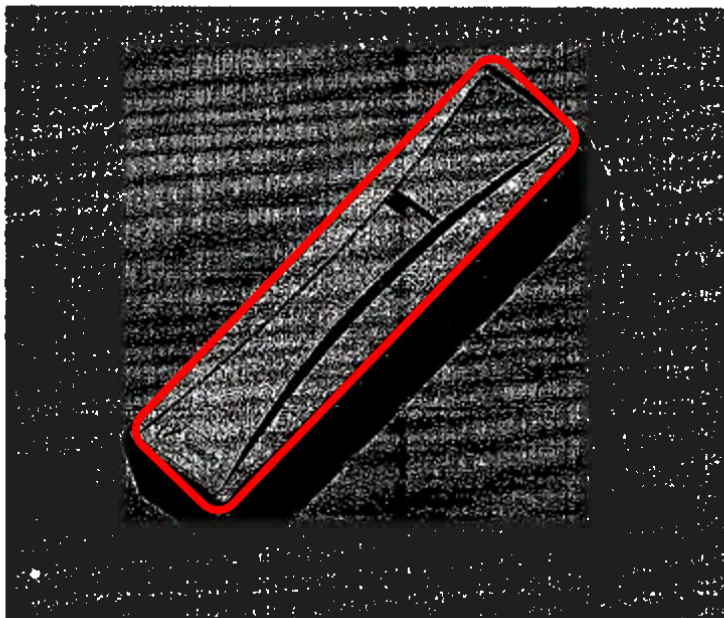
Antenna Board Layout



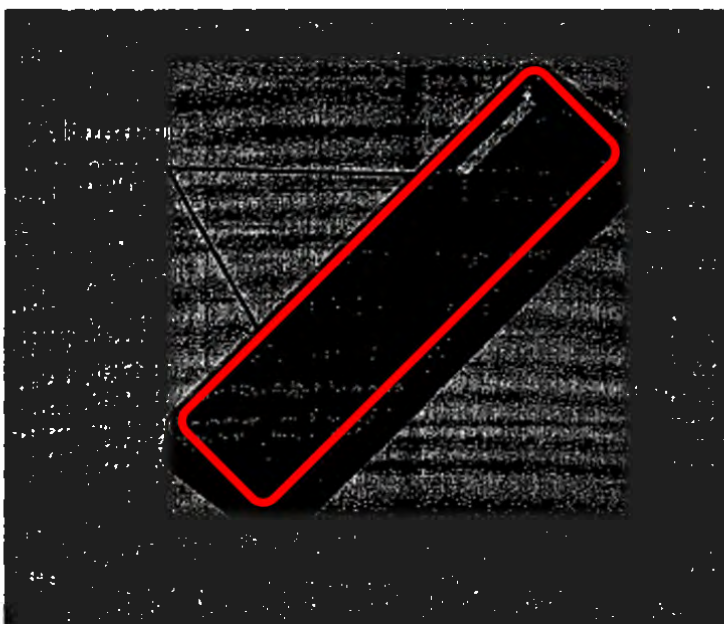
Id. at 36.

112. The '677 application further discloses the use of a “Snap-on cover” and “Base Plastic.” *Id.* at 37-38. As annotated below, the circuit boards fit along the sides of the snap-on cover and base plastic.

“Snap-on cover”



Base Plastic



Id. at 37-38.

113. Once fully assembled, the antennas of the snap-on cover and the base plastic are substantially parallel to each other.

114. A person of ordinary skill in the art would understand that combining the base plastic—with its antenna—and the snap-on cover—with its antenna—would necessarily result in an antenna configuration within a housing having two antennas substantially parallel to one another.

115. For example, the Overview for the GES Transition Series Readers displays how the base plastic and snap on cover are assembled to be parallel to each other.



Ex. C, at 1.

116. An application claiming priority to the '677 application subsequently published on September 15, 2005 as U.S. Publication No. 2005/0204167 (the "'167 publication"). Ex. H. By filing the '677 application and allowing at least the '677 application to become publicly available, the '677 application qualifies as prior art under 35 U.S.C. § 102(e), as does the '167 publication.

117. XceedID did not abandon, suppress, or conceal the subject matter of Conlin's prior invention. Indeed, XceedID developed the invention into commercial products and also filed (and published) patent applications relating to the prior invention.

118. Additionally, HID and its representatives previously conceded that Quan was not the first to invent an RFID reader that could operate at multiple frequencies using discrete antennas for each separate frequency. Indeed, in the CDCA XceedID lawsuit, HID took the position that Conlin, Wendling, and Menzel—not Quan—invented the subject matter now claimed in the '862 patent, including by stating “that the inventions, developments and discoveries disclosed in the Applications,” which included the '677 application, “were conceived and/or first reduced to practice by Conlin, Wendling, and Menzel while they were employed by HID.” Ex. A, ¶ 47.

119. HID turned out to be wrong about Conlin's invention being made while employed by HID, but any purported invention by Quan, particularly with respect to claims 1-4 of the '862 patent, occurred after Conlin conceived of his invention on or about August 22, 2003.

120. By disclosing, *inter alia*, an “access control reader” with “functionality at both 125 KHz and 13.56 MHz” and two or more antennas on PCBs housed in the base plastic and the snap-on cover that, once assembled, orient the antennas in a substantially parallel arrangement to one another, the '677 application anticipates at least claims 1-4 of the '862 patent, or, in combination with other prior art and in light of the exemplary motivations to combine discussed below in WaveLynx's Counterclaim II, establishes that at least claims 1-4 of the '862 patent are obvious. Accordingly, the '862 patent is invalid under 35 U.S.C. § 102(g)(2) based on prior invention by Conlin, as well as under 35 U.S.C. § 102(e) based on the filing date of the '677 application.

121. Counterdefendants have nonetheless filed a lawsuit against WaveLynx alleging infringement of the '862 patent, even though they are aware of invalidating prior art and prior

invention by others. Accordingly, an actual controversy exists with respect to the invalidity of the '862 patent. Thus, a judicial determination of the respective rights of the parties with respect to the invalidity of the '862 patent is now necessary and appropriate under 28 U.S.C. § 2201 for at least the preceding reasons.

COUNTERCLAIM COUNT II

DECLARATORY JUDGMENT OF INVALIDITY OF THE '862 PATENT

122. WaveLynx incorporates the foregoing paragraphs and allegations as if set forth herein.

123. Each and every claim of the '862 patent is invalid because they fail to satisfy one or more conditions for patentability set forth in 35 U.S.C. § 101 *et seq.*, including but not limited to § 102 and § 103.

124. By way of example, each of the following prior art references and products establish that at least claims 1-4 of the '862 patent invalid under 35 U.S.C. § 102. Alternatively, each of the following prior art references and products individually, or in combination with other prior art and the knowledge of one of ordinary skill in the art at the time of the alleged invention of the '862 patent, establish that the asserted claims of the '862 patent are obvious and invalid under 35 U.S.C. § 103:

- The '677 application;
- The '167 publication;
- The Davis Presentation;
- The Smart Card Alliance Report;
- XceedID's XF Series Readers and the GES Transition Series Readers;
- The Cross Point XM3 MICROPROX reader; and

- HID's Material Prior Art Products, including the proximity reader used in the pcProx Proximity Activated System and the iCLASS series of RFID readers.

The '677 Application

125. As discussed, WaveLynx's Counterclaim I shows that the '677 application is anticipatory prior art to the '862 patent.

The '167 Publication

126. The '167 publication discloses, for example, "methods for decentralized access control. Such methods include providing an access control module that is capable of operating at at least two carrier frequencies." Ex. H, ¶ [0006]. The '167 publication teaches that "[i]n one particular embodiment of the present invention, a control reader in accordance with one or more embodiments of the present invention operates at two distinct carrier frequencies, 125 KHz and 13.56 MHz." *Id.* ¶ [0026].

127. In Figure 4 and the accompanying text, for example, the '167 publication discloses "credential 460 is capable of operation at multiple carrier frequencies, and can thus communicate with access control module 410 via one or both of a channel A 420 or a channel B 422. In operation, credential 460 transmits information to access control module 410 via one access frequency. This information is received at a receiver that determines the carrier frequency at which credential 460 is transmitting. Where access control module 410 is capable of receiving at that frequency information from credential 460 is received, otherwise access control module 410 fails to acknowledge and credential 460 switches to another carrier frequency and the process is repeated until either no other carrier frequencies are supported by credential 460 or a mutually acceptable carrier frequency is identified." *Id.* ¶ [0032].

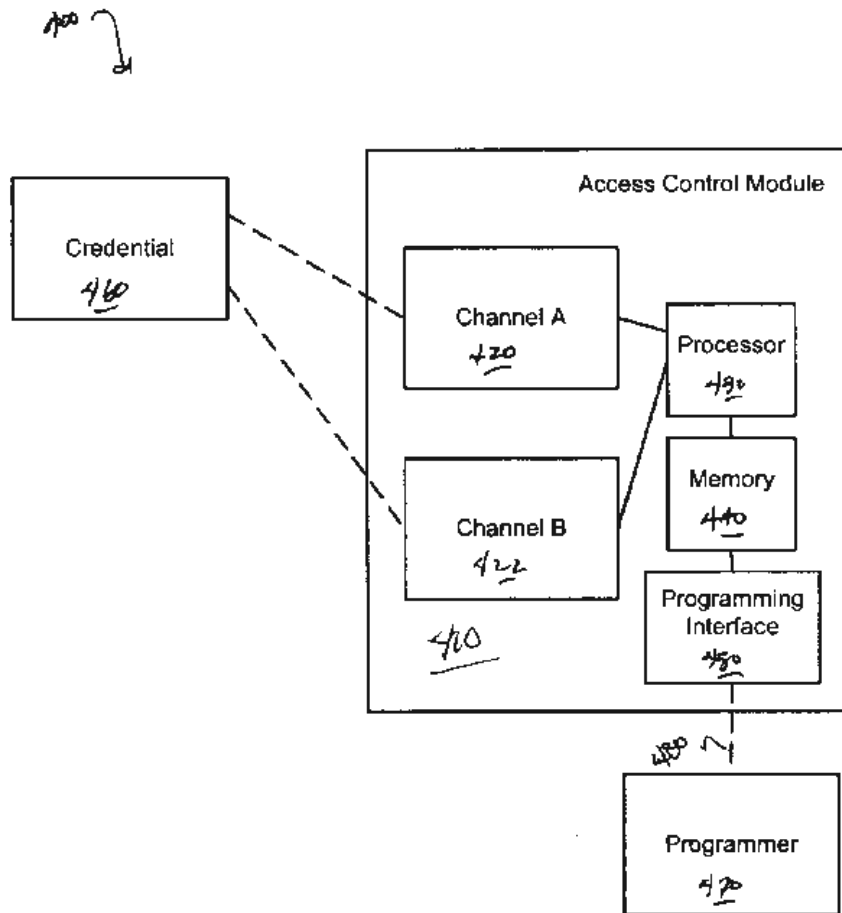


Fig. 4

128. The “access control module” of the ’167 publication “is capable of operating at at least two carrier frequencies. In addition, two or more access credentials are provided that operate at one or more of the carrier frequencies. As used herein, the term ‘credential’ refers to any portable device that includes information useful in completing a transaction. Thus, for example, a credential may be a smart card with information allowing a user of the credential to access an access point. Such credentials may be, but are not limited to, credit cards, debit cards, access control cards, smart cards, cellular telephones, personal digital assistants, and/or the like.” *Id.* ¶ [0023].

129. The '167 teaches that “[o]nce the mutually acceptable carrier frequency is identified, a channel 420, 422 associated with the identified carrier frequency is selected.” *Id.* ¶ [0033].

130. A person of skill in the art would understand that the channels 420 and 422 include separate antennas.

131. Figure 6 of the '167 publication includes a “[b]ase portion 610 includes mounting holes 640 and an electrical connector 630 that is matable to a corresponding electrical connector (not shown) an update portion 620. In operation, update portion 620 snaps onto base portion 610 that is mounted to a wall or other hardware.” *Id.* ¶ [0045]. “Among various advantages, the modularity of modular access control device 600 facilitates a simple method for updating the functionality by replacing an existing update module with another update module.” *Id.* ¶ [0046]. “In one particular case, update portion 620 and base portion 610 each include a printed circuit board (PCB). The access control can be designed such that the PCB in update portion 620 and the PCB in base portion 610 are electrically coupled via electrical connector 630. In such a situation, the PCB (including components mounted thereon) associated with base portion 610 provide for a baseline functionality, and the PCB (including components mounted thereon) associated with update portion 620 provide for additional functionality. As one particular example, an update portion with only an infrared interface may be replaced by an update portion with both an infrared interface and a keypad interface. Several possible structural and functional variations to the base portion will be recognized by one of ordinary skill in the art based on the disclosure provided herein. These variations include, but are not limited to, any feature currently partitioned into the cover assembly. . . . In addition, but again not limited to, it is also possible to include antennas, tuning networks, and appropriate RF reader electronics for other frequency reader systems

including but not limited to 125 KHZ, 433 MHz, 800 MHz, 900 MHz and/or 2400 MHz.” *Id.* ¶ [0046]. Further, “[t]he update portion includes a PCB potted into a piece of plastic which contains the following functionality: (1) one or more antennas and associated tuning circuits” *Id.* ¶ [0052].

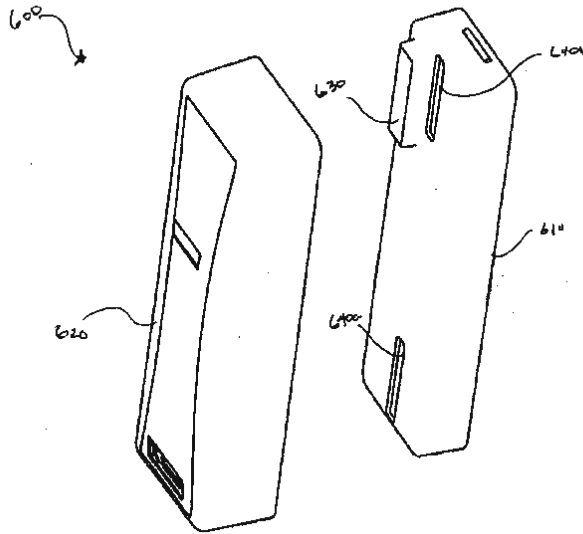


FIG. 6

132. By disclosing, *inter alia*, “a control reader . . . [that] operates at two distinct carrier frequencies, 125 KHz and 13.56 MHz” and “one or more antennas” housed within a base portion or an update portion, the ’167 publication anticipates at least claims 1-4 of the ’862 patent, or, in combination with other prior art and in light of the exemplary motivations to combine discussed below, establish that at least claims 1-4 of the ’862 patent are obvious.

The Davis Presentation

133. On July 8, 2003, Honeywell hosted a Workshop on Storage & Processor Card-Based Technologies. At this workshop, Michael L. Davis, who became HID Global’s Director of Innovation, Intellectual Property the following year, publicly presented and shared a presentation

entitled: Migration Strategies (With an Emphasis On Moving from 125 kHz Pro to 13.56 MHZ Contactless Smart Card Technology) (the “Davis Presentation”). Ex. I, at 1.

134. The Davis Presentation discloses that “‘Prox’ is a term used predominately in the United States to describe an RFID technology used in the Access Control Market . . . [that] Operates at 125 kHz.” *Id.* at 4; *compare id.*, with Ex. 2, col. 2, ll. 8-14.

135. The Davis Presentation discloses that “Contactless Smart Cards . . . Operate[] at 13.56 MHz.” Ex. I, at 5; *compare id.*, with Ex. 2, col. 2, ll. 14-21.

136. The Davis Presentation recognizes that it is beneficial to migrate from proximity cards to smart cards and that a known migration strategy is the use of “multi-technology readers.” Ex. I, at 2, 12.

137. The Davis Presentation discloses that “Multi-technology readers are capable of reading two different technologies,” including “Prox and Contactless Smart Card.”

Migration Strategies: Use Multi-Technology Readers

- **Multi-technology readers are capable of reading two different technologies**
 - Prox and Contactless Smart Card
 - Contact and Contactless Smart Card
 - Prox and Magnetic Stripe
- **Multi-technology readers may have multiple output protocols and interfaces**
 - Wiegand
 - Clock & Data
 - RS232
 - Etc.

Id. at 21.

138. At the time of the presentation, multi-technology readers were available on the market. In fact, Davis recognized that they were available from “a few vendors”:

Migration Strategies: Use Multi-Technology Readers

- **Advantages**
 - No changes to cards
 - No card re-badging
- **Disadvantages**
 - Typically most expensive migration strategy
 - ◆ Cost of readers are higher
 - ◆ Readers available from only a few vendors
 - ◆ Not all technology choices available
 - Reader obsolescence occurs faster

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Id. at 22.

139. By disclosing, *inter alia*, “[m]ulti-technology readers [that] are capable of reading two different technologies,” including “Prox and Contactless Smart Card,” the Davis Presentation anticipates at least claims 1-4 of the ’862 patent, or, in combination with other prior art and in light of the exemplary motivations to combine discussed below, establish that at least claims 1-4 of the ’862 patent are obvious.

The Smart Card Alliance Report

140. Similarly, in July 2003, the Smart Card Alliance published a report (the “Smart Card Alliance Report”) that was developed “to provide a primer on smart card-based physical access ID systems. [The] report provides answers to commonly asked questions about the use of smart cards for physical access.” Ex. J, at 6.

141. The Smart Card Alliance Report discloses that the “use of a *multi-technology reader* is another approach to migration” and that such readers “can read more than one technology at the same time.” *Id.* at 34. “A multi-technology reader can [] be as simple as two separate readers in one box, each with its own output data stream; or it can be a more sophisticated reader that can read more than one technology and transmit the card data using a single interface and wires.” *Id.* “[T]here are migration scenarios in which readers supporting a variety of technologies are practical.” *Id.*

142. The Smart Card Alliance Report further discloses that, in the RFID industry, a “Multi-technology reader” is a “card reader/writer that can accommodate more than one card technology in the same reader (e.g., both ISO/IEC 14443 and ISO/IEC 15693 contactless smart card technologies or both 13.56 MHz and 125 kHz contactless technologies).” *Id.* at 53.

143. By disclosing, *inter alia*, “multi-technology readers” that read at both “13.56 MHz and 125 kHz,” the Smart Card Alliance anticipates at least claims 1-4 of the ’862 patent, or, in combination with other prior art and in light of the exemplary motivations to combine discussed below, establish that at least claims 1-4 of the ’862 patent are obvious.

The XceedID XF Series and GES Transition Series Readers

144. As discussed, XceedID and GES sold materially identical multi-frequency readers beginning in 2004.

145. These readers are able to read cards at both 125 kHz and 13.56 MHz and they have two antennas arranged in a substantially parallel orientation. Ex. K; Ex. L.

146. Information describing this antenna arrangement became publicly available from the FCC at least by October 19, 2004. For example, the sides of the printed circuit board in the XF1100 Reader contain an antenna on either side of the circuit board:



Antenna PCB Top



Antenna PCB Bottom

Ex. L, at 11-12.

147. The XceedID XF Series Readers contain the antennas and printed circuit board in a housing. For example, the XF1100 Reader antennas are encased in a housing:

SUBMITTAL PHOTOGRAPH

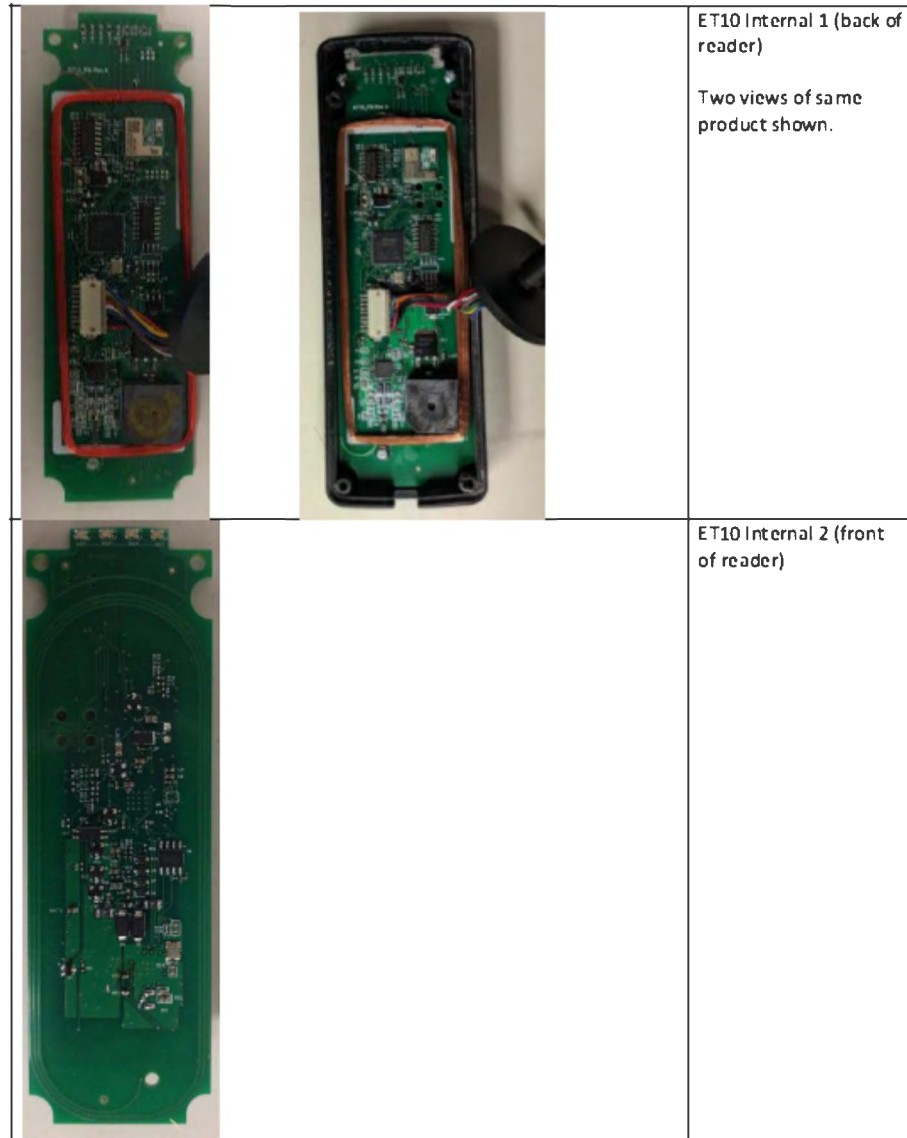


Front

Ex. M, at 7.

148. Like the Ethos Readers accused of infringement in this case, the XF1100 series has the same antennas that are oriented on either side of the printed circuit board.

149. There is no material difference in the layout between the currently sold Ethos Readers and the prior art XceedID/GES readers (that Conlin invented before HID/Quan), as can be seen by comparing the above internal photos to the WaveLynx internal photos included under paragraphs 33-34 of the Amended Complaint in this case:

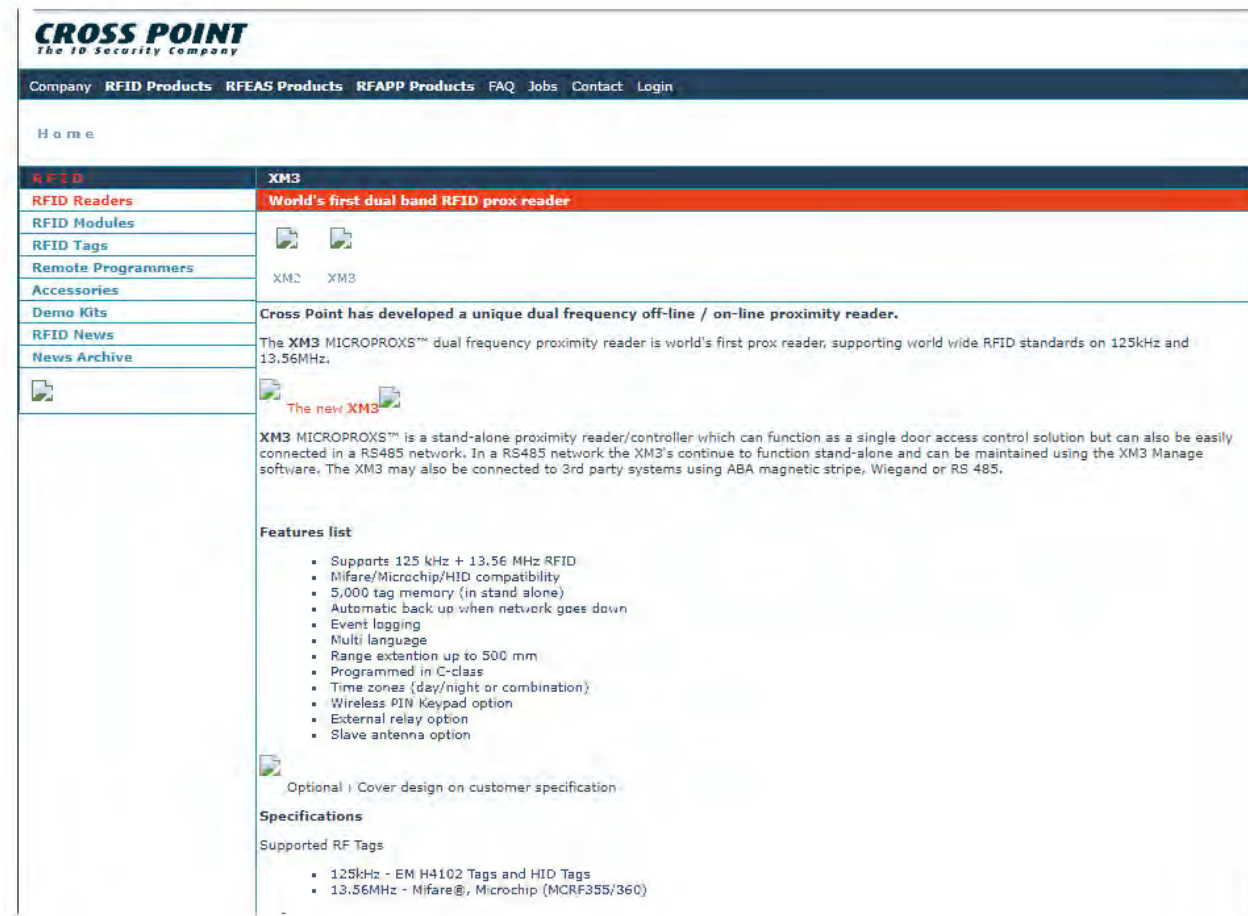


See also D.I. 12, Ex. 12 (WaveLynx internal photos submitted to FCC).

150. By disclosing, *inter alia*, multi-frequency card readers that are able to operate at both 125 kHz and 13.56 MHz with an antenna for each frequency located on opposite sides of a printed circuit board contained in a housing, the XceedID XF Series and GES Transition Series Readers anticipate at least claims 1-4 of the '862 patent, or, in combination with other prior art and in light of the exemplary motivations to combine discussed below, establish that at least claims 1-4 of the '862 patent are obvious.

The Cross Point XM3 MICROPROX Reader

151. Third party Cross Point marketed the prior art XM3 MICROPROX reader by 2002. This reader is capable of reading cards at 125 kHz and 13.56 MHz, as reflected in the below screenshot:



Ex. N.

152. On information and belief, HID was aware of the XM3 MICROPROX reader because it is compatible with HID products and HID is aware of other products that interface with its own, including Cross Point's XM3 MICROPROX reader. *Id.*

153. By disclosing, *inter alia*, a reader that is capable of reading cards at 125 kHz and 13.56 MHz, the Cross Point XM3 MICROPROX reader anticipates at least claims 1-4 of the '862

patent, or, in combination with other prior art and in light of the exemplary motivations to combine discussed below, establish that at least claims 1-4 of the '862 patent are obvious.

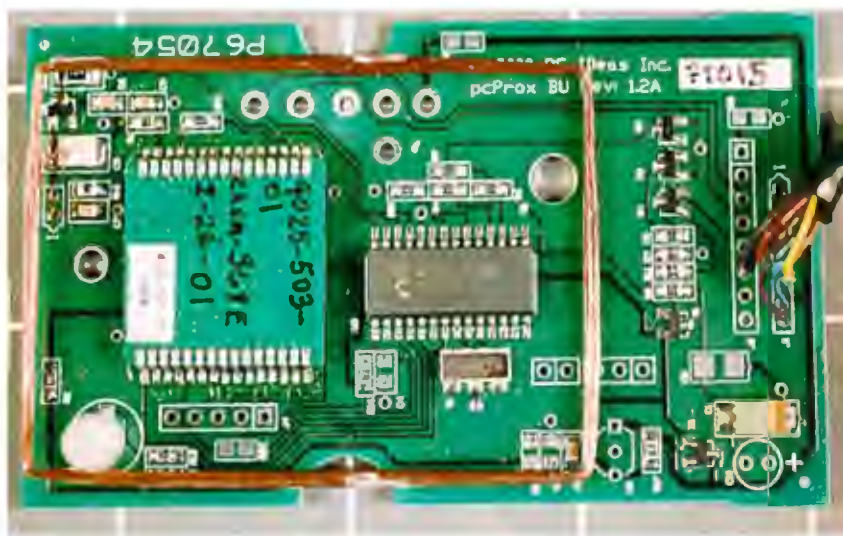
HID's Material Prior Art Products

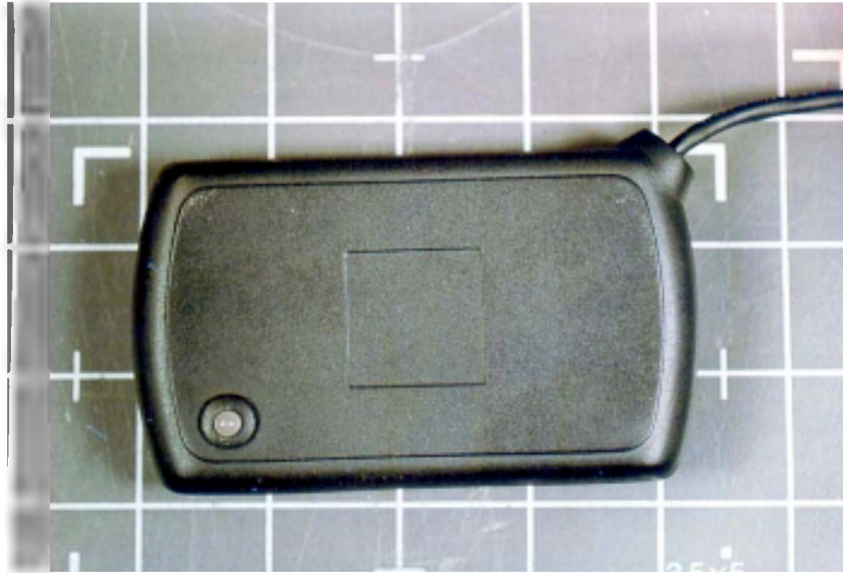
154. HID's own prior art products also establish that at least claims 1-4 of the '862 patent are invalid.

155. Prior to the earliest possible priority date of the '862 patent, HID sold the pcProx Proximity Activated System and the iCLASS series of RFID readers (collectively referred to as the "HID Material Prior Art Products") in the United States.

156. Specifically, HID sold multiple 125 kHz RFID readers. For example, HID sold a 125 kHz reader for use with the pcProx Proximity Activated Identification system (the "pcProx Reader"). Ex. O. The FCC documentation for the pcProx Reader became available by July 16, 2001. *Id.*

157. The pcProx Reader utilizes an antenna that is contained in a housing. The following figures illustrate such a prior art RFID reader with a wire coil antenna mounted on a printed circuit board and a housing:



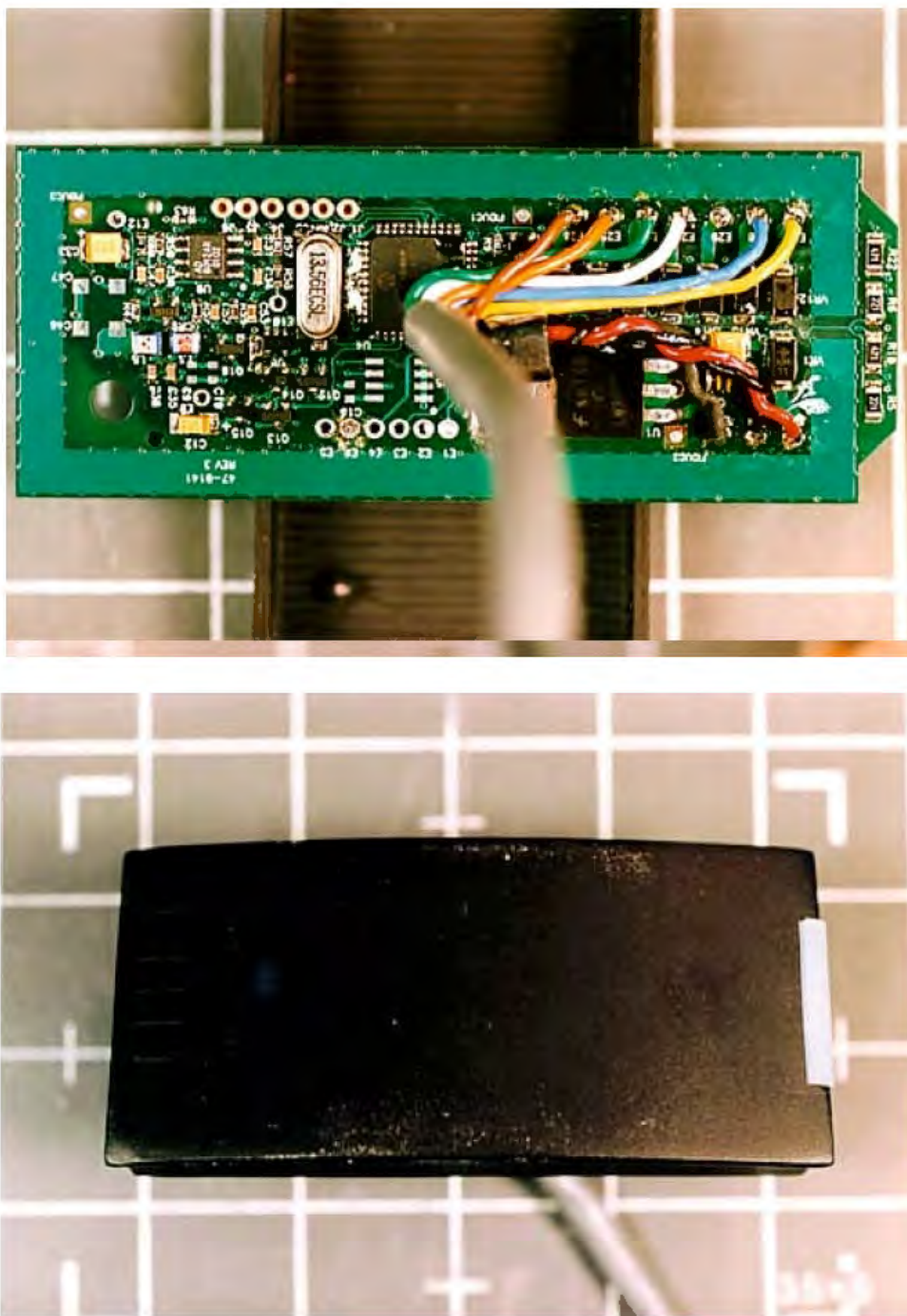


Ex. P, at 3; Ex. Q, at 1.

158. HID also sold other prior art RFID readers that operate at 125 kHz prior to the earliest possible priority date of the '862 patent.

159. Likewise, prior to the earliest possible priority date of the '862 patent, HID sold and had FCC-certified 13.56 MHz RFID readers. For example, HID's prior art iCLASS series of RFID readers (the "iCLASS Reader") is able to read data cards at a frequency of 13.56 MHz. Ex. R.

160. The iCLASS Reader contains an antenna that is contained in a housing. The following figures illustrate a prior art RFID reader with antenna on the perimeter of a printed circuit board and a housing:



Ex. S, at 1; Ex. T, at 1.

161. HID submitted iCLASS Readers to the FCC for approval on July 11, 2002, which became publicly available by July 29, 2002. On information and belief, the iCLASS Readers were offered for sale later that year.

162. Because the pcProx Reader includes, *inter alia*, a reader that operates at 125 kHz with an antenna on a printed circuit board contained in a housing, and because the iCLASS Reader includes, *inter alia*, a reader that operates 13.56 MHz with an antenna on a printed circuit board contained in a housing, it would have been obvious to combine these separate readers in the same housing, establishing that at least claims 1-4 of the '862 patent are invalid, in light of the exemplary motivations to combine described below.

Motivations to Combine

163. A person of ordinary skill in the art would be motivated to combine one or more of the preceding references (among others) for any of the following exemplary reasons:

164. It would have been obvious to combine the prior art to arrive at the invention claimed in at least claims 1-4 of the '862 patent because 125 kHz and 13.56 MHz readers were well established in the prior art. The “*multi-technology reader . . . approach to migration*” was well known in the prior art because “there are migration scenarios in which readers supporting a variety of technologies are practical.” Ex. J, at 34 (emphasis original).

165. Indeed, HID themselves sold individual 125 kHz and 13.56 MHz readers. It would have been obvious to integrate these individual devices into a single unit, as a matter of obvious and common-sense engineering choices.

166. As a result of well understood transformer coupling physics, it was well known in the prior art at the time of the invention of the '862 patent to orient antennas in RFID readers parallel to the reader housing wall to facilitate tag reading.

167. A person of ordinary skill in the art also would have been motivated by market forces and common sense to combine individual RFID readers that operate at different frequencies into a single reader.

168. By 2003, with the standardization of 13.56 MHz (smart) readers, there was a market force to move to this standard or integrate it with 125 kHz (proximity) readers.

169. Proximity cards were unstandardized and limited in their ability to store information and provide security. For example, proximity cards are only able to provide the card's identification number to the reader. The card's identification number is then evaluated to determine whether the holder of a card with that number is allowed into a secured area. Proximity cards also lack internal storage, that could be used to determine whether the holder of that card is the person authorized to enter into the secured area.

170. Smart cards are able to store more information useful for security purposes, such as biometric information and other card and user authentication information. Smart cards are able to do this because smart cards have greater memory storage capacity—they are able to store several hundred bytes of biometric information.

171. Proximity cards therefore lack the additional security provided by smart cards to ensure that the holder of the card is allowed into that secured area.

172. The 2003 prior art Smart Card Alliance Report discloses that various technical upgrades to data transfer and credentialing technology is leading “to the migration from 125 kHz to contactless smartcards like ISO/IEC 15693.” Ex. J, at 22. “ISOIEC 15693 is a 13.56 MHz passive RF technology designed to operate at ranges of up to 3 feet (1 meter) while still meeting FCC power output limits in the United States.” *Id.* at 21-22.

173. The 2003 prior art Davis Presentation also notes various advantages of smart readers over proximity readers. For example, the Davis Presentation discloses several advantages of moving to smart cards over 125 kHz cards:

Why Migrate? (cont.)

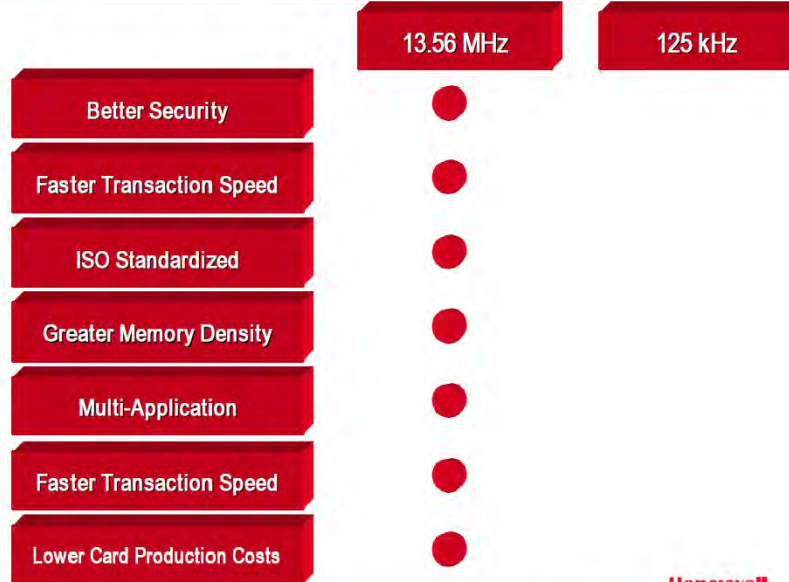
- Added Benefits With No Increase in Price
- Increased Security
- Ability to use same card for additional applications:
 - Biometrics: Carry multiple templates on card
 - Logical Access
 - ID: Carry Tamperproof Digital Photographs
 - Portable Database: Encrypted Information for authentication or emergencies
- Interoperability
- Future Growth

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Why Migrate to Contactless Smart Cards?



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Why Migrate (cont.)

- **International Standardization**
 - **Current 125 KHz Prox Technology**
 - ♦ No ISO existing or planned standardization
 - ♦ Proprietary
 - HID, Motorola, AWID, Casi-Rusco, etc.
 - **New 13.56 MHz Contactless Smart Cards**
 - ♦ Standards DO exist
 - ISO 14443A, 14443B, 15693
 - ♦ Open standards with interoperability encourages broad supplier support and customer acceptance
 - ♦ Open standards can increase market size driving prices down
 - ♦ Facilitates interoperability between vendors and applications
 - ♦ Helps to drive costs down
 - ♦ Helps to eliminate obsolescence

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Ex. I, at 7-11.

174. Thus, because of the known advantages that smart cards offer over proximity cards, there was a market force to move from proximity cards to smart cards at (and before) the time of the invention.

175. However, at the time of the invention it was a substantial cost to replace issued proximity cards in a proximity-card based security system in order to migrate to a smart-card based security system. Therefore, there existed a recognized incentive to maintain operating the issued-proximity cards as long as possible, while simultaneously issuing smart cards when new credentials are needed. Therefore, various companies in the RFID reader industry began producing combined proximity card and smart card-based readers, to facilitate migration between the two established frequencies. *E.g.*, Ex. J, at 22

176. Indeed, Conlin's prior art '677 application recognizes that "[w]hen the electronics become obsolete, the entire reader is discarded and replaced. Such an approach can be costly in terms of expenditures and wasted time." Ex. G, at 2.

177. The '677 application teaches that "[i]n some cases, the present invention provides for modular contactless smart card access control readers that operate at multiple RF frequencies. For example, two or more frequencies can be supported including 125 KHz and 13.56MHz. This multiple frequency approach provides for transitioning systems from one generation of control to another. Thus, where access control is initially provided at 125 KHz, new processes of access control can be supported at 13.56MHz until the new processes of access control are fully implemented and the 125KHz processes can then be ended." *Id.* at 5.

178. Likewise, Conlin's '167 publication teaches that a "multiple frequency approach may, among other things, provide for transitioning systems from one generation of control to another. Thus, as an example, where access control is initially provided at 125 KHz, new processes

of access control can be supported at 13.56 MHz until the new processes of access control are fully implemented and the 125 KHz processes can then be ended.” Ex. H, ¶ [0026].

179. Likewise, the Davis Presentation explains that one way to achieve migration is to use multi-technology readers for “Prox and Contactless Smart Card.” Ex. I, at 21-22.

180. And the Smart Card Alliance Report states that “125 kHz proximity technology is widely used and will typically be the legacy system that is being upgraded.” Ex. J, at 25. “It may (for example) be necessary to plan for the implementation of multiple contactless technologies until the migration of the enterprise infrastructure to the newer contactless smart card technology is complete.” *Id.* at 25. The Smart Card Alliance Report further discloses that “[t]he use of a *multi-technology reader* is another approach to migration” and that “[m]ulti-technology readers can read more than one technology at the same time” and “can [] be as simple as two separate readers in one box.” *Id.* at 34.

181. Thus, the Smart Card Alliance Report explicitly discloses that “[p]hysical access control systems that use multiple RF technologies operating at the same frequency can be combined cost-effectively in a single reader.” Ex. J, at 34.

182. The prior art teachings, suggestions, and motivations of combining RFID readers is abundant and express. Thus, combining known elements of prior art RFID readers that operate at different frequencies (specifically 125 kHz and 13.56 MHz) using different antennas in the same housing would yield predictable results in the combined reader and would not operate in any unexpected manner.

183. The antenna arrangements of a combined reader arranged in the claimed parallel orientation also would perform as expected. A person of ordinary skill in the art would have been motivated to combine the antennas of individual RFID readers in the claimed parallel orientation

in order to contain the reader antennas within “a reader housing [] having an acceptable compact size.” Ex. 2, at col. 10, ll. 57-58. Further, there are limited known and acceptable methods of arranging RFID reader antennas within the reader housing.

184. Further, a person of ordinary skill in the art would have been motivated to encase the antennas in a housing, as claimed, to protect the antennas and electronics from exposure to ambient air, moisture, and potential wear to and vandalism of the antennas.

185. Indeed, in another RFID-related patent for which Quan is a named inventor, it is admitted in the Background of the Invention that “RFID readers for access control applications are also generally housed in a secure shell or other secure enclosure to render the internal circuitry physically inaccessible to the user or unauthorized individual and prevent tampering.” U.S. Patent No. 7,124,943, col. 3, ll. 31-35 (filed on September 24, 2004 and issued on October 24, 2006). Quan thus did not invent using a housing for RFID readers.

Invalidity Under 35 U.S.C. § 102(f) (pre-AIA)

186. Quan did not invent the subject matter claimed in the '862 patent. As discussed above, the '677 application is anticipatory to at least claims 1-4 of the '862 patent, and HID has previously conceded that WaveLynx's founders invented the subject matter later claimed in at least claims 1-4 of the '862 patent. Ex. A, ¶ 47.

187. Additionally, on information and belief, HID derived the subject matter claimed in the '862 patent from XceedID after learning in late Fall 2003 that “XceedID was allegedly offering to design RFID security access readers for customers that would replicate or be compatible with HID's iClass RFID products and/or HID controllers used to control the operation of HID Prox products” (Ex. E, ¶ 32.), further establishing the '862 patent invalid under 35 U.S.C. § 102(f) and/or for improper of inventorship.

188. For all these reasons, the '862 patent is invalid under at least 35 U.S.C. §§ 102(a), (b), (e), (f) including based on the '677 application, the '127 publication, the Davis Presentation, the Smart Card Alliance Report, XceedID's XF Series Readers and the GES Transition Series Readers, The Cross Point XM3 MICROPROX Reader, and HID's Material Prior Art Products, including the pcProx Reader and the iClass Reader, as well as under 35 U.S.C. § 103, including based on the foregoing references and products.

189. Counterdefendants have nonetheless filed a lawsuit against WaveLynx alleging infringement of the '862 patent, even though the '862 patent is invalid. Accordingly, an actual controversy exists with respect to the invalidity of the '862 patent. Thus, a judicial determination of the respective rights of the parties with respect to the invalidity of the '862 patent is now necessary and appropriate under 28 U.S.C. § 2201 for at least the preceding reasons.

COUNTERCLAIM COUNT III

DECLARATORY JUDGMENT OF UNENFORCEABILITY OF THE '862 PATENT

190. WaveLynx incorporates the foregoing paragraphs and allegations as if set forth herein.

191. Through the actions of Counterdefendants' employees and representatives, including the named inventor, the '862 patent was obtained through fraud committed during prosecution before the U.S. Patent Office and, therefore, all claims of the '862 patent are unenforceable.

192. Specifically, the '862 patent is unenforceable due to inequitable conduct committed by at least one or more of the applicant and assignee, their representatives, and others who were substantively involved in patent prosecution, including representatives from Sheridan Ross P.C., Ralph W. Quan, Michael Davis, Tam Hulusi, and/or other HID representatives involved in the

prosecution of the '862 patent and its related applications before the U.S. Patent Office. By violating their duty of good faith and candor they owed to the U.S. Patent Office, these individuals committed fraud during prosecution, which led to the issuance of the claims of the '862 patent.

193. In particular, and as discussed in more detail below, the '862 patent is unenforceable because the following known material prior art references were intentionally not disclosed to the U.S. Patent office in order to gain allowance of the claims:

- The HID Material Prior Art Products;
- The Davis Presentation and the multi-frequency RFID readers referenced therein;
- Conlin's '677 application;
- The '167 publication;
- The Smart Card Alliance Report; and
- The XceedID XF Series Reader and the GES Transition Series Reader.

The Duty of Disclosure Owed to the U.S. Patent Office

194. Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the U.S. Patent Office, which includes a duty to disclose to the U.S. Patent Office all information known to that individual to be material to patentability.

195. Such individuals include every inventor, attorney, or agent who prepares or prosecutes the application, and every other person who is substantively involved and who is associated with the inventor, the applicant, an assignee, or anyone to whom there is a duty to assign the application. Those individuals are encouraged to make sure they disclose to the U.S. Patent Office what they believe to be the closest information to any pending claim.

196. Information is material to patentability when it establishes by itself or in combination with other information, a *prima facie* case of unpatentability of a claim or it refutes or is inconsistent with a position the applicant takes in opposing an argument of unpatentability relied on by the U.S. Patent Office or asserting an argument of patentability. A *prima facie* case of unpatentability is established when the information compels a conclusion that a claim is unpatentable under the preponderance of evidence standard, giving each term in the claim its broadest reasonable construction.

Individuals With a Duty to Disclose Known Material Prior Art

197. At least the following identified individuals were associated with the drafting, filing, and/or prosecution—including whether to seek patent protection in the first instance—of relevant HID patent applications, including the applications related to the '862 patent. Discovery is expected to reveal more.

198. Ralph W. Quan, an engineer and the named inventor of the '862 patent, had a duty to disclose material known prior art references to the U.S. Patent Office while prosecution was active. Quan left HID on October 17, 2008, four days before the '862 patent issued.

199. Matthew R. Ellsworth, a patent agent at Sheridan Ross P.C., had a duty to disclose known material prior art references because he was one of the agents who prosecuted the '576 application, which led to the issuance of the '862 patent. Ellsworth had a duty to disclose known material prior art references while prosecution of was active. Ellsworth was a patent agent during the prosecution of the '576 application and subsequently registered as a patent attorney at the U.S. Patent Office in 2010. Due to his registration status during the prosecution of the '576 application, he is referred to hereinafter as “patent agent Ellsworth.”

200. Attorney Todd Blakely of Sheridan Ross P.C. had a duty to disclose known material prior art references to the U.S. Patent Office while prosecution was active. For example, Blakely

was HID's long-standing attorney substantively and interacted with Davis and Hulusi and, on information and belief, Blakely assisted in prosecuting the '576 application. As a point of contact for HID, Blakely worked on multiple HID matters, including the CDCA and Colorado XceedID lawsuits, which also involved multi- or dual-frequency prior art RFID readers. It is believed that Blakely relayed and discussed HID matters with Sheridan Ross P.C. attorneys and patent agents, including patent agent Ellsworth. Therefore, Blakely had a duty to disclose known material prior art to the U.S. Patent Office because he was substantively associated with the filing and prosecution of HID's patent application.

201. Michael Davis had a duty to disclose known material prior art references to the U.S. Patent Office while prosecution was active. As HID's Director of Technology, Intellectual Property, Davis was intimately involved with obtaining patent protection for HID, including being associated with the patent prosecution leading to the '862 patent. On information and belief, Davis was a point of contact on patent prosecution matters between HID and Sheridan Ross attorneys and patent agents, including attorney Blakely and patent agent Ellsworth. Davis was therefore involved in the prosecution of the '576 application and had a duty to disclose known material prior art to the U.S. Patent Office.

202. For example, Davis submitted a declaration in the CDCA XceedID lawsuit on October 30, 2007, reflecting certain of Davis's patent-related activities. Davis provided testimony concerning strategy discussions about a patent application filed by XceedID, as well as discussions with HID's Patent Assistant, Kim Harrington, HID's Manager of Patent Administration, Betsy Willoughby, and Tam Hulusi. Indeed, Harrington sent an email on December 14, 2006, informing Davis that "[t]he copy of an application that Mike Conlin was a co-inventor is in your mailbox in a sealed envelope." Ex. U, at 2.

203. Tam Hulusi had a duty to disclose known material prior art references to the U.S. Patent Office while prosecution was active. As HID's Senior Vice President of Strategy and Innovation between 2004 and 2014, Hulusi was substantively involved in matters relating to HID's intellectual property, including being associated with the patent prosecution leading to the '862 patent. Hulusi, among others at HID, knew of XceedID's dual reader and was involved in discussions with XceedID relating to their alleged use of HID intellectual property on RFID readers. In addition to litigation, on information and belief, Hulusi was substantively involved in the prosecution of HID's patents relating to RFID readers, including being substantively involved with the filing and prosecution of the '576 application.

**C. The Non-Disclosed Prior Art Is Material and Not Cumulative
to the Prior Art the Examiner Considered**

204. The HID Material Prior Art Products, the Davis Presentation and multi-frequency RFID readers referenced therein, Conlin's '677 application, the '167 publication, the Smart Card Alliance Report, and the XceedID XF Series and GES Transition Series Readers are material and not cumulative over the prior art available to or used by the patent examiner during prosecution.

205. For example, claim 1 of the '862 patent, as originally drafted in the '246 application, claimed the following:

An antenna array for an RFID reader comprising:

a first reader antenna tuned to operate at a first frequency; and

a second reader antenna tuned to operate at a second frequency different from said first frequency.

206. This claim was rejected in a non-final rejection under 35 U.S.C. § 102(e) by the examiner on January 12, 2007 for being anticipated by U.S. Pat. No. 6,750,771 ("Brand").

207. In response, on April 17, 2007, Applicant amended claim 1 as follows:

An antenna array for an RFID reader comprising:

a first reader antenna tuned to operate at a first carrier frequency enabling data communication with a first transponder transmitting data signals at said first carrier frequency; and

a second reader antenna tuned to operate at a second carrier frequency different from said first carrier frequency enabling data communication with a second transponder transmitting data signals at said second carrier frequency.

Ex. V, at 2.

208. In the same response, Applicant argued that “the reader of Brand can only communicate with passive transponders which are tuned to the same single frequency as the antennas in the array.” *Id.* at 8. Applicant further argued that “**prior art passive transponders and readers are limited to operation at only one or the other of these two frequencies** [namely, 125 kHz and 13.6 MHz] due to technical, operational and physical size constraints” and that “[t]ransponders operating at 125 kHz are conventionally termed proximity cards and transponders operating at 13.5 MHz are conventionally termed smart cards.” *Id.* (emphasis added).

209. Applicant further argued that “Brand recognizes the desirability of a reader which is capable of simultaneously reading (i.e., communicating with) multiple passive transponders operating at a single carrier frequency of 125 kHz which are within communication range of the reader” and “discloses means for achieving this objective.” *Id.* However, Applicant contends, “nowhere does Brand disclose or suggest the desirability of providing a reader having an antenna array which can read multiple transponders, two or more of which operate at two different carrier frequencies, such as 125 kHz and 13.5 MHz.” *Id.*

210. Unlike Brand, Applicant argued, “applicant recognizes the desirability of a reader which is capable reading two different transponders, one of which operates at a different carrier frequency than the other.” *Id.* And “[n]or is the antenna array of claim 1 which requires two differently tuned antennas an obvious design modification of Brand because Brand lacks any motivation for such a modification.” *Id.* at 9.

211. In view of Applicant's response, the examiner next made a final rejection of the pending claims under 35 U.S.C. § 102(e) on July 12, 2007 for being anticipated by U.S. Pat. No. 7,119,738 ("Bridgelall").

212. In their next response on October 5, 2007, Applicant amended claim 1 to specify "low" and "high" carrier frequencies and argued, *inter alia*, that "Bridgelall does not teach [sic] any embodiment where two antennas are located in close proximity to one another" and "teaches away from the inventions in the present application." Ex. W, at 2, 11.

213. In view of Applicant's response, the examiner next made a non-final rejection of the pending claims under 35 U.S.C. § 103(a) on December 28, 2007 for being unpatentable over U.S. Pat. No. 7,268,687 ("Egbert").

214. In their next response, filed on March 11, 2008, Applicant amended claim 1 as follows:

An antenna array for an RFID reader comprising:

a first reader antenna tuned to operate at a first low carrier frequency enabling data communication with a first transponder transmitting data signals at said first low carrier frequency; and

a second reader antenna tuned to operate at a second high carrier frequency different from said first low carrier frequency enabling data communication with a second transponder transmitting data signals at said second high carrier frequency, wherein the first and second antennas are oriented along axes that are substantially parallel to one another.

Ex. X, at 2.

215. In the same response, Applicant argued that with regard to "the antennas of the present invention," Egbert merely taught that "lattices (19A and 19B)" are "to be at opposite ends of a corridor and such lattices are to operate at the same frequency." *Id.* at 12. "That is, the lattices operate at the operating frequency of the RFID system to detect when objects having an RFID tag

pass between the lattices.” *Id.* Further, Applicant argued that “[t]here is no mention in Egbert as to how the lattices should be oriented and/or overlapped.” *Id.* at 13.

216. The claims were thereafter allowed and the application issued as the ’862 patent on October 21, 2008.

217. The U.S. Patent Office, however, would not have allowed at least claims 1-4 to issue had the examiner known of any of the following prior art that was intentionally withheld to secure issuance of the patent: the HID Material Prior Art Products, the Davis Presentation, Conlin’s ’677 application, the ’167 publication, the Smart Card Alliance Report, and the XceedID XF Series and the GES Transition Series Readers. This, as explained above, is because each of the references disclose and teach the limitations recited in claims 1-4 of the ’862 patent, including a dual frequency reader in which a first and second antenna are oriented along axes that are substantially parallel to one another.

218. The content of this prior art also refutes and/or is inconsistent with the positions taken by the Applicant for the ’862 patent during prosecution before the U.S. Patent Office. The Applicant would not have been able to make the arguments it did had the above-identified prior art been disclosed to, and considered by, the U.S. Patent Office. For example, the Applicant would not have been able to make the arguments/amendments it made in response to the office actions set forth above to obtain the patent.

219. Accordingly, each of the above identified prior art is material and non-cumulative to the prior art that was cited to the examiner during prosecution that led to the issuance of the ’862 patent.

220. As shown herein, all of this prior art was known to one or more of the above-identified individuals, who were substantively involved in prosecution of the '862 patent and/or had a duty to disclose it to the U.S. Patent Office.

D. Specific Instances of Inequitable Conduct

1. Failure to Disclose the HID Material Prior Art Products

221. One or more individuals associated with the filing and prosecution of the '862 patent committed inequitable conduct by failing to disclose the HID Material Prior Art Products.

222. For example, at least patent agent Ellsworth, named inventor Quan, and HID employees Davis and Hulusi committed inequitable conduct during prosecution of the '862 patent by failing to disclose the HID Material Prior Art Products including those referenced in the patent itself (Ex. 2, col. 2, ll. 7-21), thereby violating the duty of good faith and candor they owed to the U.S. Patent Office, and making the '862 patent unenforceable.

223. On information and belief, during Quan's role as an engineer at HID from 1998-2008, Quan developed, and was aware of, the RFID reader products HID developed during that time, including the HID Material Prior Art Products. Quan also was aware of other RFID reader products sold by HID and other companies, including those generally referred to in the Background of the specification of the '862 patent, which admits to existence of prior art RFID reader products, but provides no structural details, such as antenna arrangement. Quan thus had knowledge of HID's Material Prior Art Products and other prior art products that were material to the issuance of the claims of the '862 patent but did not disclose them.

224. On information and belief, patent agent Ellsworth knew of the HID Material Prior Art Products because he discussed the alleged invention contained in the '862 patent during prosecution with at least Quan and/or others at HID. As a patent agent, Ellsworth was aware that

the prior art products of HID and those referenced in the specification were material to the examination of the claims of the '862 patent.

225. Davis and Hulusi also knew of the HID Material Art Products. Davis would have known of the HID Material Prior Art Products because of his role as the Director of Technology, Intellectual Property, and Hulusi would have known of the HID Material Prior Art Products based on his role as Senior Vice President of Strategy and Innovation, and his substantial discussions with Davis regarding HID's products. *See* Ex. B.

226. By failing to disclose their material knowledge of the HID Material Prior Art Products to the U.S. Patent Office during prosecution of the '862 patent, Davis, Hulusi, Quan and patent agent Ellsworth committed inequitable conduct.

227. Indeed, as described above, the HID Material Prior Art Products were material prior art to the patentability of the subject matter claimed in the '862 patent. For example, the HID Material Prior Art Products, when combined, would be able to read credentials at two frequencies and would utilize the same antenna arrangement as the '862 patent claims. Indeed, Davis himself stated in an email to Hulusi on October 14, 2005 that "[i]t is easy to show that it is an obvious extension to make it [dual-frequency readers] a single unit." Ex. B, 13. The examiner did not have any such art or motivations before him during prosecution.

228. In addition, during prosecution of the '862 patent, Applicant argued that prior art readers were limited to operation at only one frequency and that the prior art of record provided no motivation to modify readers to have two antennas tuned to operate at different carrier frequencies in close proximity to one another.

229. Further, Applicant argued that "since Egbert does not even describe how the lattices are actually oriented and since Fig. 1 is a 3-dimensional depiction of the control system, Applicant

respectfully submits that Egbert does not render the claimed invention obvious, especially in relation to the claimed orientation of the antennas. Egbert's lack of description related to the orientation of the lattices should not be substituted and/or expanded upon by the examiner's guess as to what is depicted in Fig. 1." Ex. X, at 13. Prior art antennas were therefore central to examination of the pending claims during prosecution. But when the HID Material Prior Art Products are logically and simply combined, they would be combined in a substantially parallel orientation within a housing. The HID Material Prior Art Products refute and/or are inconsistent with the positions taken by the Applicant for the '862 patent during prosecution before the U.S. Patent Office. The Applicant, moreover, would not have been able to make the arguments it did had the HID Material Art been disclosed to, and considered by, the U.S. Patent Office.

230. Similarly, as described above, the HID Material Prior Art Products are non-cumulative to the art that was disclosed during prosecution of the '862 patent, including because the features of the HID Material Prior Art Products are closer the claims than the disclosures of the prior art that the examiner applied during prosecution.

231. But-for Davis, Hulusi, Quan, and/or patent agent Ellsworth's failures to disclose the known and material, non-cumulative prior art to the U.S. Patent Office, the claims of the '862 patent would not have issued.

232. Withholding these HID Material Prior Art Products further constituted egregious misconduct.

233. On information and belief, Davis, Hulusi, Quan, and/or patent agent Ellsworth knowingly withheld this material information with the specific intent to deceive the U.S. Patent Office and gain allowance. Davis, Hulusi, Quan and patent agent Ellsworth were aware that HID produced RFID readers, including those referenced in the patent itself (Ex. 2, col. 2, ll. 7-21), and

yet no such readers were disclosed to the U.S. Patent Office, thereby violating their duty of good faith and candor.

234. Accordingly, at least one or more of the individuals identified herein committed inequitable conduct and the '862 patent is unenforceable.

2. Failure to Disclose the Davis Presentation and Multi-Frequency RFID Readers Referenced Therein

235. One or more individuals associated with the filing and prosecution of the '862 patent committed inequitable conduct by failing to disclose the Davis Presentation and/or multi-frequency RFID readers referenced therein.

236. For example, the '862 patent is unenforceable due to inequitable conduct committed by at least HID employees Davis and Hulusi and patent agent Ellsworth in the prosecution of the '862 patent before the U.S. Patent Office because they deliberately failed to disclose the known and material Davis Presentation to the U.S. Patent Office, thereby violating their duty of good faith and candor.

237. Before working at HID, both of Michael Davis and Tam Hulusi worked for Honeywell and were involved with access control technology. After leaving Honeywell, Davis became HID's "Director of Technology, Intellectual Property" and Hulusi became HID's Global's Senior Vice President of Strategy and Innovation.

238. Davis and Hulusi were aware of the Davis Presentation. Indeed, Davis is the author of the Davis Presentation and he presented the Davis Presentation on July 8, 2003. Davis knew of its materiality as prior art to dual- or multi- frequency RFID readers. For example, when referring to his Presentation in an email on April 29, 2005, Davis "[d]idn't want to send this to the group here"—which included Hulusi—and sent them "a link to a presentation I made at NIST regarding card migration scenarios." Ex. B, at 8. In the same email, Davis recognized that "[o]bviously this

is in the public domain being posted on a public web site” and suggested using his Presentation in “a ‘prior art’ defense” in reference to “XceedID’s patent filing [] on their migration device.” *Id.* Davis thus recognized that his presentation was material prior art.

239. Similarly, Davis stated in an email dated October 14, 2005 to Hulusi that, in the context of the GES Transition Series Reader developed by XceedID: “If GE is so interested in [such a] product, then *we can build them one*. The idea for how to do so has been in the public domain since July 8th of 2003 when it was presented (by me) at NIST with Ray Freeman as a witness since he was also there. (See <http://csrc.nist.gov/card-technology/integration.html>.) So XceedID couldn’t have filed a patent to do this before my presentation in 2003 because I believe they were still HID employees then. Even if they had left HID early in 2003, I had been showing that presentation publicly for some time before. **So this must be prior art. It is easy to show that it is an obvious extension to make it a single unit.** Pete will have to comment on the validity of this point. (Interestingly enough, their implementation . . . actually does use two different readers interconnected by that connector – just like the presentation).” *Id.* at 13 (italicized emphases original, bold emphasis added).

240. Davis was discussing how to assist HID’s defense should XceedID assert a patent resulting from Conlin’s ’677 application against HID, by using Davis’s Presentation as prior art to the ’677 application.

241. Davis presented the Davis Presentation on July 8, 2003, and indeed Davis knew of his own Presentation during the entirety of his employment at HID, which on information and belief began on or around March 31, 2005, and lasted beyond the issuance of the ’862 patent, on October 21, 2008.

242. Based on the foregoing, Hulusi also knew of the Davis Presentation on or before October 14, 2005 and while he worked at HID before the '862 patent issued on October 21, 2008.

243. Patent agent Ellsworth also knew of the Davis Presentation. In addition to being one of the individuals involved in the prosecution that led to the issuance of the '862 patent, patent agent Ellsworth also prosecuted U.S. Application No. 11/470,660 (the "'660 application") on behalf of Counterdefendants.

244. Due to this, patent agent Ellsworth was aware of the Davis Presentation on or before September 7, 2006, when he included the Davis Presentation in an Invention Disclosure Statement (IDS) filed for the '660 application that patent agent Ellsworth signed while the application for the '862 patent was pending. Ex. Y, at 2, 3. By submitting the Davis Presentation in the co-pending '660 application, which is entitled "Synchronization Techniques in Multi-Technology/Multi-Frequency RFID Reader Arrays," patent agent Ellsworth knew that the Davis Presentation was material prior art to the pending claims of the '862 patent.

245. By not disclosing the Davis Presentation during prosecution of the '862 patent, at least patent agent Ellsworth, Davis and Hulusi committed inequitable conduct.

246. Indeed, as described above, the information contained in the Davis Presentation is material prior art to the patentability of the subject matter claimed in the '862 patent. For example, the Davis Presentation discloses multi-frequency RFID readers and several substantial motivations to combine RFID readers to arrive at the claimed antenna orientation. The examiner did not have any such art before him during prosecution.

247. In addition, Applicant argued during prosecution that (1) prior art readers were limited to operation at only one frequency and that the prior art of record provided no motivation to modify readers to have two antennas tuned to operate at different carrier frequencies in close

proximity to one another; and (2) the prior art of record did not render the antenna orientation obvious. The Davis Presentation refutes and/or is inconsistent with these positions taken by the Applicant for the '862 patent during prosecution before the U.S. Patent Office. The Applicant, moreover, would not have been able to make the arguments it did had the Davis Presentation been disclosed to, and considered by, the U.S. Patent Office.

248. As described above, the Davis Presentation is also non-cumulative to the prior art that was disclosed during prosecution of the '862 patent, including because the disclosures of the Davis Presentation are closer the claims than the disclosures of the prior art that the examiner applied during prosecution.

249. As set forth above, it is also beyond dispute that Davis and Hulusi knew that the Davis presentation was material prior art. Indeed, Davis stated to Hulusi that his presentation “must be *prior art*. **It is easy to show that it is an obvious extension to make it a single unit**” and otherwise suggested using his presentation as prior art to XceedID’s inventions and patent applications, which were conceived and filed before any filing date for the '862 patent. And as explained above, patent agent Ellsworth disclosed the Davis Presentation in connection with other HID patent filings on related technology, yet failed to disclose the Davis Presentation in prosecuting the '862 patent.

250. Additionally, at least Davis knew of materially relevant prior art products to the '862 patent, because in his 2003 Presentation, he references that “Multi-Technology Readers” are available from “a few vendors.” Ex. I, at 22. By Davis sharing his Presentation with Hulusi, and by patent agent Ellsworth filing the Davis Presentation in the '660 application, Hulusi and patent agent Ellsworth also were aware that there were prior art multi-frequency products available by

2003. However, neither patent agent Ellsworth, Davis, nor Hulusi disclosed any known material prior art products to the U.S. Patent Office during prosecution of the '862 patent.

251. These prior art products would have been material and non-cumulative to the '862 patent because they relate to commercial embodiments of multi-frequency readers that operate at the very same frequencies recited in claims 2 and 3 of the '862 patent and would provide the closest prior art as to the orientation of two antennas in a reader. The non-cumulative nature of these undisclosed prior art products is further supported by the prosecution history of the '862 patent. The examiner during prosecution did not consider any disclosures relating to the claimed antenna orientation, or any then-existing dual-frequency RFID readers.

252. But-for patent agent Ellsworth, Davis, and Hulusi's failures to disclose the Davis Presentation and the prior art products referenced in the Davis Presentation, the claims of the '862 patent would not have issued, at least in their current form.

253. This withholding further constituted egregious misconduct.

254. Patent agent Ellsworth, Blakely and HID employees Davis and Hulusi knowingly withheld the Davis Presentation and the prior art products referenced in the Davis Presentation with the specific intent to deceive the U.S. Patent Office and gain allowance. For example, Davis recognized, and told Hulusi of, the importance of his prior Davis Presentation as prior art to any dual reader patent application, yet he did not disclose the Davis Presentation to the U.S. Patent Office during prosecution of the '862 patent.

255. Accordingly, at least one or more of the individuals identified herein committed inequitable conduct and the '862 patent is unenforceable.

3. Failure to Disclose Conlin's '677 Application

256. One or more individuals associated with the filing and prosecution of the '862 patent committed inequitable conduct by failing to disclose the '677 application.

257. For example, patent agent Ellsworth was aware of the '677 application on or before September 7, 2006 because an IDS filed on that date in the '660 application included reference to the '167 publication, which was the publication of the 11/076,090 application (the "'090 application") that claimed priority to the '677 application. Ex. Y, at 1. By submitting the '167 publication on the IDS, patent agent Ellsworth was aware that the filing date for the '677 application was March 15, 2004—over two months before the May 18, 2004 filing of the earliest application date listed on the face of the '862 patent. Patent agent Ellsworth signed the September 7, 2006 IDS for the '660 application (*id.* at 3), and thus was aware of the '677 application while the '576 application was pending.

258. By not disclosing the '677 application while prosecution was pending, patent agent Ellsworth committed inequitable conduct because he knew that it was material prior art to the '576 application by submitting the '167 publication in the co-pending '660 application, which is entitled "Synchronization Techniques in Multi-Technology/Multi-Frequency RFID Reader Arrays."

259. Hulusi and attorney Blakely also had knowledge of the material '677 application, but did not disclose it. On October 14, 2005, Hulusi and attorney Blakely were included on an email from Russ Weed of GE, which stated that "XceedID filed a patent application prior to GE Security and HID entering into our License Agreement," which referred to the '677 application. Ex. B, at 14.

260. By not disclosing the '677 application to the U.S. Patent Office during prosecution of the '862 patent, Hulusi and attorney Blakely committed inequitable conduct, including because Hulusi and attorney Blakely knew that XceedID's patent applications on multi- or dual-frequency RFID readers were material to HID's patent applications on the same.

261. Indeed, as described above, the information contained in the '677 application is material prior art to the patentability of the subject matter claimed in the '862 patent. For example, the '677 application discloses dual frequency RFID readers that have the claimed antenna arrangement, but the examiner did not have any such art before him during prosecution of the '862 patent.

262. In addition, Applicant argued during prosecution that (1) prior art readers were limited to operation at only one frequency and that the prior art of record provided no motivation to modify readers to have two antennas tuned to operate at different carrier frequencies in close proximity to one another; and (2) the prior art of record did not render the antenna orientation obvious. The '677 application refutes and/or is inconsistent with these positions taken by the Applicant for the '862 patent during prosecution before the U.S. Patent Office. The Applicant, moreover, would not have been able to make the arguments it did had the '677 application been disclosed to, and considered by, the U.S. Patent Office.

263. As described above, the '677 application is also non-cumulative to the prior art that was disclosed during prosecution of the '862 patent, including because the disclosures of the '677 application are closer the claims than the disclosures of the prior art that the examiner applied during prosecution.

264. But-for patent agent Ellsworth, Hulusi, and attorney Blakely's failures to disclose the '677 application, the claims of the '862 patent would not have issued, at least in their current form.

265. This withholding further constituted egregious misconduct.

266. Patent agent Ellsworth, Hulusi, and attorney Blakely knowingly withheld the '677 application with the specific intent to deceive the U.S. Patent Office, and knowing of its materiality

to the pending claims, to gain allowance. For example, attorney Blakely and Hulusi discussed the '677 application, but did not disclose that same reference in the context of HID's own applications. Additionally, patent agent Ellsworth prosecuted HID's '660 application, which is in the same technical space as the '862 patent, but did not disclose these prior art references in both applications.

267. Accordingly, at least one or more of the individuals identified herein committed inequitable conduct and the '862 patent is unenforceable.

4. Failure to Disclose the '167 Publication

268. One or more individuals associated with the filing and prosecution of the '862 patent committed inequitable conduct by failing to disclose the '167 publication.

269. For example, patent agent Ellsworth was aware of the '167 publication and its materiality on or before September 7, 2006 because he signed the IDS filed for the aforementioned co-pending '660 application on that date, which included reference to the '167 publication (the publication of the '090 application that claimed priority to the '677 application). Ex. Y, at 1, 3. By submitting the '167 publication on the IDS, patent agent Ellsworth was aware that the priority date for the '167 publication was March 15, 2004—over two months before the May 18, 2004 filing of the earliest application date listed on the face of the '862 patent.

270. By submitting the '167 publication in the '660 application, which was entitled “Synchronization Techniques in Multi-Technology/Multi-Frequency RFID Reader Arrays,” patent agent Ellsworth knew that the '167 publication were material prior art to the '576 application.

271. By not disclosing the known and material '167 publication, while prosecution was pending, patent agent Ellsworth breached his duty to the U.S. Patent Office and committed inequitable conduct.

272. Hulusi and Davis also had knowledge of the '167 publication by June 12, 2006. For example, Hulusi sent Davis an email on that date to which the '167 publication was attached, stating: "I would like to attack this patent with everyone thing [sic] we have lets try and nullify it." Ex. B, at 21. Davis further emailed Pete Lowe, the CTO of AAAB, on June 12, 2006, asking Lowe to "call me to discuss attached patent application by XceedID?" *Id.*

273. Hulusi and Davis committed inequitable conduct by not disclosing the '167 publication to the U.S. Patent Office while prosecution of the '862 patent was pending. Indeed, Hulusi and Davis knew the '167 publication was material prior art based at least on their desire to "nullify it."

274. Indeed, as described above, the information contained in the '167 publication is material prior art to the patentability of the subject matter claimed in the '862 patent. For example, the '167 publication discloses dual frequency RFID readers that have the claimed antenna arrangement. The examiner did not have this art before him during prosecution and was deprived of the opportunity to consider it during prosecution.

275. In addition, Applicant argued during prosecution that (1) prior art readers were limited to operation at only one frequency and that the prior art of record provided no motivation to modify readers to have two antennas tuned to operate at different carrier frequencies in close proximity to one another; and (2) the prior art of record did not render the antenna orientation obvious. The '167 publication refutes and/or is inconsistent with these positions taken by the Applicant for the '862 patent during prosecution before the U.S. Patent Office. The Applicant, moreover, would not have been able to make the arguments it did had the '167 publication been disclosed to, and considered by, the U.S. Patent Office.

276. As described above, the '167 publication is also non-cumulative to the prior art that was disclosed during prosecution of the '862 patent, including because the disclosures of the '167 publication are closer the claims than the disclosures of the prior art that the examiner applied during prosecution.

277. But-for patent agent Ellsworth, Davis, and Hulusi's failures to disclose the '167 publication to the U.S. Patent Office, the claims of the '862 patent would not have issued, at least in their current form.

278. This withholding further constituted egregious misconduct.

279. Patent agent Ellsworth, Davis, and Hulusi knowingly withheld the '167 publication with the specific intent to deceive the U.S. Patent Office because they failed to disclose that publication to the U.S. Patent Office and gain allowance.

280. Accordingly, at least one or more of the individuals identified herein committed inequitable conduct and the '862 patent is unenforceable.

5. Failure to Disclose the Smart Card Alliance Report

281. One or more individuals associated with the filing and prosecution of the '862 patent committed inequitable conduct by failing to disclose the Smart Card Alliance Report.

282. For example, patent agent Ellsworth was aware of the Smart Card Alliance Report on or before September 7, 2006, because the Smart Card Alliance Report was included in an IDS filed for the aforementioned co-pending '660 application on that date that he signed. Ex. Y, at 2, 3.

283. Additionally, by submitting the Smart Card Alliance Report in the '660 application, which was entitled "Synchronization Techniques in Multi-Technology/Multi-Frequency RFID Reader Arrays," patent agent Ellsworth knew that the Smart Card Alliance Report was material prior art to the '576 application.

284. By not disclosing the Smart Card Alliance Report while prosecution of the '862 patent was pending, patent agent Ellsworth committed inequitable conduct.

285. Indeed, as described above, the information contained in the Smart Card Alliance Report is material prior art to the patentability of the subject matter claimed in the '862 patent. For example, the Smart Card Alliance Report discloses dual frequency RFID readers that have the claimed antenna arrangement and a substantial discussion on the motivation to create a RFID reader with the claimed antenna arrangement. The examiner did not have any such art before him during prosecution and was deprived of being able to fully and fairly examine the pending claims of the application.

286. In addition, Applicant argued during prosecution that (1) prior art readers were limited to operation at only one frequency and that the prior art of record provided no motivation to modify readers to have two antennas tuned to operate at different carrier frequencies in close proximity to one another; and (2) the prior art of record did not render the antenna orientation obvious. The Smart Card Alliance Report refutes and/or is inconsistent with these positions taken by the Applicant for the '862 patent during prosecution before the U.S. Patent Office. The Applicant, moreover, would not have been able to make the arguments it did had the Smart Card Alliance Report been disclosed to, and considered by, the U.S. Patent Office.

287. As described above, the Smart Card Alliance Report is also non-cumulative to the prior art that was disclosed during prosecution of the '862 patent, including because the disclosures of the Smart Card Alliance Report are closer the claims than the disclosures of the prior art that the examiner applied during prosecution.

288. But-for patent agent Ellsworth's failure to disclose the Smart Card Alliance Report, the claims of the '862 patent would not have issued, at least in their current form.

289. This withholding further constituted egregious misconduct.

290. Patent agent Ellsworth knowingly withheld the Smart Card Alliance Report with the specific intent to deceive the U.S. Patent Office and to gain allowance of the '862 patent, including because he chose not to disclose the Smart Card Alliance Report to the U.S. Patent Office during prosecution of the '862 patent while at the same time knowing of its materiality and choosing to disclose it in prosecution of a co-pending application in the same technical space as the '862 patent and on behalf of Counterdefendants.

291. Accordingly, at least one or more of the individuals identified herein committed inequitable conduct and the '862 patent is unenforceable.

6. Failure to Disclose the XceedID XF Series and the GES Transition Series Readers

292. One or more individuals associated with the filing and prosecution of the '862 patent committed inequitable conduct by failing to disclose the XceedID XF Series Readers and/or the GES Transition Series Readers.

293. For example, Davis and Hulusi knew of the XceedID XF Series Readers by April 29, 2005 because Davis addressed Hulusi in an email that stated that "XceedID's patent filing is on their migration device" but hopefully that his Davis Presentation "can be used in a 'prior art' defense." Ex. B, at 8.

294. Additionally, on June 8, 2006, Davis emailed Hulusi describing the text of an XceedID advertisement for:

Multi Technology Readers
Proximity and Contactless Readers
125 kHz and 13.56 Mhz smart cards
www.xceedid.com

Id. at 19.

295. On June 14, 2005, Hulusi emailed Davis stating that he “took a good look at the XceedID reader” and recommend that HID “hire an outside company to ‘reverse engineer’ the design.” *Id.* at 11. On information and belief, HID reverse engineered an XceedID reader prior to October 21, 2008, and therefore knew about XceedID’s antenna arrangement.

296. As discussed above, HID Representatives including attorney Blakely, Davis, and Hulusi met with XceedID’s representatives in August of 2005, and brought with them a datasheet for an XceedID’s XF Series Reader.

297. Because attorney Blakely, Davis, and Hulusi had knowledge of the XceedID XF Series Readers in August of 2005, they had knowledge of the XceedID XF Series Readers while prosecution was pending.

298. Attorney Blakely, Davis, and Hulusi chose to withhold the XceedID XF Series Readers from the U.S. Patent Office during prosecution of the ’862 patent.

299. Relating to the GES Transition Series Reader, as discussed previously in WaveLynx’s Counterclaims, XceedID developed with GES the Transition Series Readers. And as also previously discussed in WaveLynx’s Counterclaims, attorney Blakely represented HID in the Colorado XceedID lawsuit filed on October 5, 2004, which alleged that: “On or about September 17, 2004, ITG discovered that XceedID had designed and engineered a universal card reader for General Electric Security, part of GE Infrastructure, that is capable of reading HID’s RFID security access cards.” Ex. E, ¶ 33. Attorney Blakely signed HID’s complaint. *Id.* at pg. 13.

300. Davis and Hulusi also knew of the GES Transition Series Reader. On June 24, 2005, Hulusi sent Davis an email discussing an “investigation into dual-tech readers. I’m hoping to get new GE reader units shortly.” Ex. B, at 11.

301. Attorney Blakely, Davis, and Hulusi knew of the GES Reader on or before December 31, 2006 and chose to withhold the GES Transition Series Readers from the U.S. Patent Office during prosecution of the '862 patent.

302. Attorney Blakely, Davis, and Hulusi knew that the XceedID XF Series and GES Transition Series Readers were material because they knew HID was prosecuting patent applications directed to multi- and dual- frequency readers and that GES products and XceedID patents and products would impact HID's patents and products. Indeed, on information and belief, the claims application were written to cover prior art RFID readers, including those of XceedID and GES. Therefore, by not disclosing the GES Transition Series Readers to the U.S. Patent Office while prosecution was pending, attorney Blakely, Davis, and Hulusi committed inequitable conduct.

303. As discussed previously above, XceedID XF Series Readers and the GES Transition Series Reader were material prior art to the patentability of the subject matter claimed in the '862 patent because the XceedID XF Series Readers and the GES Transition Series Reader disclose dual frequency RFID readers that have the claimed antenna arrangement. The examiner did not have any such art before him during prosecution of the '862 patent and was thereby deprived of being able to fully and fairly examine the pending claims of the application.

304. In addition, Applicant argued during prosecution that (1) prior art readers were limited to operation at only one frequency and that the prior art of record provided no motivation to modify readers to have two antennas tuned to operate at different carrier frequencies in close proximity to one another; and (2) the prior art of record did not render the antenna orientation obvious. The XceedID XF Series Reader and the GES Transition Series Reader refute and/or are inconsistent with these positions taken by the Applicant for the '862 patent during prosecution

before the U.S. Patent Office. The Applicant, moreover, would not have been able to make the arguments it did had the XceedID XF Series or the GES Transition Series Readers been disclosed to, and considered by, the U.S. Patent Office.

305. As described above, the XceedID XF Series Reader and the GES Transition Series Reader are also non-cumulative to the prior art that was disclosed during prosecution of the '862 patent, including because the features of the XceedID XF Series Reader and/or the GES Transition Series Reader are closer the claims than the disclosures of the prior art that the examiner applied during prosecution.

306. But-for attorney Blakely, Davis, and Hulusi's failure to disclose at least the XceedID XF Series Reader or the GES Transition Series Reader to the U.S. Patent Office, the claims of the '862 patent would not have issued, at least in their current form.

307. Withholding the XceedID XF Series and the GES Transition Series Readers further constituted egregious misconduct.

308. Attorney Blakely, Davis, and Hulusi knowingly withheld the XceedID XF Series and the GES Transition Series Readers with the specific intent to deceive the U.S. Patent Office and gain allowance. Indeed, as discussed above, attorney Blakely was aware that his firm prosecutes patent applications directed to RFID readers for HID, and yet he did not disclose the XceedID XF Series or the GES Transition Series Readers during prosecution of the '862 patent. In addition, Davis and Hulusi were aware of the materiality of the XceedID or GES products to Counterdefendants' patents and patent applications (including the applications for the '862 patent), and yet neither Davis nor Hulusi disclosed the XceedID XF Series or the GES Transition Series Readers during prosecution of the '862 patent.

309. Accordingly, at least one or more of the individuals identified herein committed inequitable conduct and the '862 patent is unenforceable.

7. Other Instances of Inequitable Conduct

310. On information and belief, other individuals at and representatives of HID, who had a duty of disclosure, committed additional instances of inequitable conduct in the prosecution of the of the applications that led to the '862 patent.

311. For example, based on the prior lawsuits with XceedID, at least Hulusi and Davis knew that Conlin had previously invented the subject matter claimed later in the '862 patent. HID admitted in judicial pleadings that “[i]n the late Fall of 2003, HID learned from customers that XceedID was allegedly offering to design RFID security access readers for customers that would replicate or be compatible with HID’s iClass RFID products and/or HID controllers used to control the operation of HID Prox products.” Ex. E, ¶ 32. Likewise, HID admitted that “[o]n or about September 17, 2004, ITG discovered that XceedID had designed and engineered a universal card reader for General Electric Security, part of GE Infrastructure, that is capable of reading HID’s RFID security access cards.” *Id.* ¶ 33.

312. HID also previously asserted in litigation that Conlin, Wendling, and Menzel—not Quan—invented the subject matter now claimed in the '862 patent, stating “that the inventions, developments and discoveries disclosed in the Applications,” which included the '677 application, “were conceived and/or first reduced to practice by Conlin, Wendling, and Menzel.” Ex. A, ¶ 47. Both Hulusi and Davis would have been aware that HID had so pled because of their roles at HID and their involvement in HID intellectual property matters, as described elsewhere herein. And yet, no representative of HID disclosed these prior inventions by Conlin and others to the U.S. Patent Office.

313. Other individuals involved in intellectual property relating to HID and dual frequency readers were also aware of the '677 application and '167 publication, based on the CDCA XceedID lawsuit. *Id.* ¶¶ 44-45. Further, other individuals knew of the prior art GES Transition Series Readers based on their involvement in HID litigation or intellectual property licensing.

314. Additionally, other individuals committed inequitable conduct by failing to disclose prior art dual-frequency readers, despite being substantively involved in patent prosecution and having a duty to so disclose. For example, the '862 patent concedes that there are “[e]xemplary RFID systems,” and that there “are currently two standard carrier frequencies which have **been generally accepted** for use in RFID systems. RFID systems, which employ RFID transponders of the type conventionally termed proximity cards or proximity tags, **typically communicate** by means of data signals at a carrier frequency within a range of 100 to 150 kHz. . . . In contrast, RFID systems employing RFID transponders of the type conventionally termed smart cards **typically communicate** by means of data signals at a carrier frequency of 13.56 MHz, which is deemed high frequency. The frequency bandwidth available for use around the carrier frequency of 13.56 MHz is defined by **industry-wide standards such as ISO standards 15693 and 14443.**” Ex. 2, col 1, ll. 29-30; Ex. 2, col. 2, ll. 7-21. The '862 patent further states that “[a]t present, use of RFID transponders operating at the low carrier frequency and RFID transponders operating at the high carrier frequency have proliferated throughout the world.” Ex. 2, col 2, ll. 22-24 (emphasis added).

315. Despite noting exemplary RFID systems, industry standards and practices, and proliferation of low and high carrier frequency RFID transponders, no individual with a duty to

disclose material prior art disclosed any RFID products to the U.S. Patent Office, which would have allowed the examiner to, *inter alia*, evaluate antenna orientation in the admitted prior art.

316. Accordingly, for all these reasons, the '862 patent is unenforceable based on inequitable conduct committed by patent agent Ellsworth, attorney Blakely, and HID employees Hulusi, Davis, and Quan.

317. Counterdefendants have nonetheless filed a lawsuit against WaveLynx alleging infringement of the '862 patent, even though the '862 patent is unenforceable due to Counterdefendants' inequitable conduct. Accordingly, an actual controversy exists with respect to the enforceability of the '862 patent. Thus, a judicial determination of the respective rights of the parties with respect to the invalidity of the '862 patent is now necessary and appropriate under 28 U.S.C. § 2201 for at least the preceding reasons.

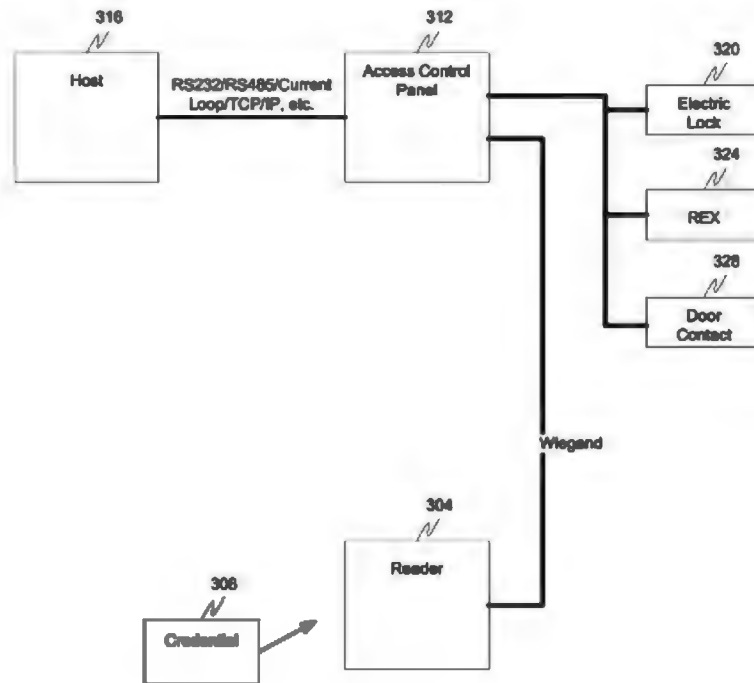
COUNTERCLAIM COUNT IV

DECLARATORY JUDGMENT OF NONINFRINGEMENT OF THE '562 PATENT

318. WaveLynx incorporates the foregoing paragraphs and allegations as if set forth herein.

319. WaveLynx does not infringe any claim of the '562 patent, including at least because none of WaveLynx' products, including the Ethos Readers, "receiv[e] . . . a message from an upstream device" and, based on that message, "transition[] . . . from . . . a non-secure Wiegand mode" to "at least one of a secure Wiegand mode and a packet-mode." This basis for non-infringement is exemplary and not exhaustive.

320. Figure 3 of the '562 patent depicts a system "in accordance with embodiments of the present invention," including an RS-485 line between the Host and the Access Control Panel and a Wiegand line between the Reader and the Access Control Panel:

**Fig. 3**

321. Contrary to the '562 patent, upon installation, the Ethos Readers are not “first” in a “Wiegand mode,” but are configured to communicate using the bidirectional OSDP protocol through an RS-485 serial interface. Once an OSDP message is received through an OSDP panel, the readers lock-in and communication is only possible by continuing to use the OSDP protocol absent a manual reset. Only when connected to a Wiegand panel are the readers capable of toggling to enable the making of a Wiegand transmission if the reader detects a credential presented to the reader, or a key press on the reader itself. When this scenario occurs, the reader is temporarily enabled to make the unidirectional Wiegand transmission and then it automatically reverts to the bidirectional OSDP state based on the reader’s internal programming and without receipt of any “message from an upstream device.” Once installed on a given panel, the Ethos Readers only communicate using OSDP or Wiegand, never both.

322. Also once installed, the Ethos Readers either make Wiegand transmissions or communicate using the OSDP protocol; they do not switch between the two.

323. As such, the accused products cannot meet at least the following claim language of the '562 patent: *“based on . . . the message [from an upstream device] . . . transitioning the credential reader from the first mode of operation to a second mode of operation, wherein the first mode comprises a non-secure Wiegand mode and wherein the second mode comprises at least one of a secure Wiegand mode and a packet-mode.”*

324. Therefore, use of the Ethos Readers cannot infringe any claim of the '562 patent. WaveLynx is therefore not a direct or indirect infringer of the '562 patent.

325. On information and belief, Counterdefendants did not inspect or test any WaveLynx Ethos Reader in relation to whether it infringes claim 1 of the '562 patent prior to the filing of this Amended Complaint. Testing would have revealed that the Ethos Readers do not operate in a “default Wiegand mode” or there is any conceivable transition from a non-secure Wiegand mode to one of a secure Wiegand mode or a packet mode in response to “a message from an upstream device,” as described above.

326. Indeed, Counterdefendants amended their complaint to assert the '562 patent based, at least in part, on an unused 2017 datasheet for the Ethos Readers. Specifically, Exhibit 9 to Counterdefendants' Amended Complaint (D.I. 12), though apparently available through Google searching, is not listed on the Ethos Readers page on WaveLynx's Website ([see https://wavelynxtech.com/products/ethos-access-control-readers/](https://wavelynxtech.com/products/ethos-access-control-readers/)), nor was it included with any Ethos Readers sold. Had Counterdefendants tested the Ethos Readers prior to the filing of their Amended Complaint, they would have known that Exhibit 9 does not describe the operation of the Ethos Readers.

327. As set forth herein, Counterdefendants knew, or at least should have known, that WaveLynx does not infringe the '562 patent, before filing its Amended Complaint against WaveLynx.

328. Counterdefendants have nonetheless filed a lawsuit against WaveLynx alleging infringement of the '562 patent, even though WaveLynx does not infringe the '562 patent. Accordingly, an actual controversy exists with respect to whether WaveLynx infringes the '562 patent. Thus, a judicial determination of the respective rights of the parties with respect to any alleged infringement of the '562 patent by WaveLynx is now necessary and appropriate under 28 U.S.C. § 2201 for at least the preceding reasons.

PRAYER FOR RELIEF

WHEREFORE, Defendant and Counterclaimant WaveLynx prays for the following relief:

- A. That Plaintiffs' claims against WaveLynx be dismissed with prejudice and that Plaintiffs take nothing by way of its Amended Complaint;
- B. That judgment be rendered in favor of WaveLynx, including that WaveLynx has not infringed any valid and enforceable claim of the '862 or '562 patents;
- C. For a declaration that at least the asserted claims (including claims 1 through 4) of the '862 patent are invalid;
- D. For a declaration that the '862 patent is unenforceable due to inequitable conduct;
- E. For a declaration that the asserted claims (including at least claim 1) of the '562 patent are not infringed;
- F. For an order finding this case exceptional pursuant to 35 U.S.C. § 285 and awarding WaveLynx its reasonable attorneys' fees and costs of suit as allowed by law;
- G. For such other and further relief as the Court deems just and proper.

JURY DEMAND

Defendant hereby requests a trial by jury, pursuant to Rule 38 of the Federal Rules of Civil Procedure, on all issues so triable raised in the pleadings.

Dated: June 27, 2022

/s/ Thatcher Rahmeier
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