

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

LIBERTY ACCESS TECHNOLOGIES
LICENSING LLC,

Plaintiff,

v.

ASSA ABLOY AB, ASSA ABLOY MOBILE
SERVICES AB, and ASSA ABLOY GLOBAL
SOLUTIONS AB,

Defendant.

Case No. 2:22-cv-00507-JRG

District Judge Rodney Gilstrap

**DEFENDANTS¹ ASSA ABLOY AB, ASSA ABLOY MOBILE SERVICES AB, AND ASSA
ABLOY GLOBAL SOLUTIONS AB'S P.R. 3-3 INVALIDITY AND SUBJECT-MATTER
ELIGIBILITY CONTENTIONS**

¹ Defendants have yet to be served in this matter and have appeared for purposes of challenging service and deficiencies in the Complaint.

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A-1	'205 Invalidity Claim Chart – <u>WO2001/063425</u> (“Bröndrup”)
A-2	'205 Invalidity Claim Chart – U.S. 8,730,004 (“Elfström”)
A-3	'205 Invalidity Claim Chart – WO2008/076074 (“Knutsson”)
A-4	'205 Invalidity Claim Chart – U.S. 2005/0033962 (“Libin”)
A-5	'205 Invalidity Claim Chart – U.S. 2010/0201536 (“Robertson”)
A-6	'205 Invalidity Claim Chart – U.S. 2009/0219133 (“Woodard”)
A-7	'205 Invalidity Claim Chart – U.S. 6,385,728 (“DeBry”)
A-8	'205 Invalidity Claim Chart – U.S. 2003/0194089 (“Kansala”)
A-9	'205 Invalidity Claim Chart – U.S. 7,353,396 (“Micali”)
A-10	'205 Invalidity Claim Chart – U.S. 2005/0060555 (“Raghunath”)
A-11	'205 Invalidity Claim Chart – U.S. 7,012,503 (“Nielsen”)
A-12	'205 Invalidity Claim Chart – WO2009/094683 (“Ullmann”)
A-13	'205 Invalidity Claim Chart – U.S. 2005/0021954 (“Kung”)
A-14	'205 Invalidity Claim Chart – WO2006/101614 (“Buckingham”)
A-15	'205 Invalidity Claim Chart – U.S. 2007/0173266 (“Barnes”)
A-16	'205 Invalidity Claim Chart – VingCard System
A-17	'205 Invalidity Claim Chart – OpenWays System
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B-2	'747 Invalidity Claim Chart – WO2008/076074 (“Knutsson”)
B-3	'747 Invalidity Claim Chart – U.S. 2010/0201536 (“Robertson”)
B-4	'747 Invalidity Claim Chart – U.S. 2009/0219133 (“Woodard”)
B-5	'747 Invalidity Claim Chart – U.S. 2007/0053313 (“Adams”)

B-6	'747 Invalidity Claim Chart – JP2002/083087 (“Inoue”)
B-7	'747 Invalidity Claim Chart – U.S. 2003/0194089 (“Kansala”)
B-8	'747 Invalidity Claim Chart – U.S. 2005/0033962 (“Libin”)
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B-11	'747 Invalidity Claim Chart – U.S. 8,730,004 (“Elfström”)
B-12	'747 Invalidity Claim Chart – U.S. 7,012,503 (“Nielsen”)
B-13	'747 Invalidity Claim Chart – WO2009/094683 (“Ullmann”)
B-14	'747 Invalidity Claim Chart – U.S. 2007/0173266 (“Barnes”)
B-15	'747 Invalidity Claim Chart – VingCard System
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C-2	'474 Invalidity Claim Chart – WO2008/076074 (“Knutsson”)
C-3	'474 Invalidity Claim Chart – U.S. 2010/0201536 (“Robertson”)
C-4	'474 Invalidity Claim Chart – U.S. 2009/0219133 (“Woodard”)
C-5	'474 Invalidity Claim Chart – U.S. 2007/0053313 (“Adams”)
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I. INTRODUCTION

Pursuant to Patent Rule (“P.R.”) 3-3 of the Eastern District of Texas, the Standing Order Regarding Subject-Matter Eligibility Contentions, and the Court’s Docket Control Order (Dkt. No. 39), Defendants² hereby provide their Invalidity and Subject Matter Eligibility Contentions (collectively, “Invalidity Contentions”) with respect to the claims identified by Plaintiff Liberty Access Technologies Licensing LLC (“Liberty”) in its Preliminary Disclosure of Asserted Claims and Infringement Contentions, served on May 15, 2023, and its Corrected Preliminary Disclosure of Asserted Claims and Infringement Contentions, served on May 18, 2023, in the above-captioned case.

Liberty asserts infringement of claims 1-11, 13-19, and 21-23 of U.S. Patent No. 9,373,205 (the “’205 Patent”); claims 1-14 of U.S. Patent No. 10,657,747 (the “’747 Patent”); claims 1-36 of U.S. Patent No. 11,373,474 (the “’474 Patent”) (collectively, “the Asserted Claims”). Defendants disagree that they infringe any claims of the ’205, ’747, or ’474 Patents (collectively, “the Patents-in-Suit” or “Patents”) and contend that the claims of these Patents are invalid, as described herein.

Defendants’ Invalidity Contentions are limited to the Asserted Claims, are served in response to Liberty’s Initial Infringement Contentions, and are based on the information currently available to Defendants regarding Liberty’s allegations and theories of infringement. Defendants reserve the right to amend or supplement this disclosure as necessary in view of any changes or amendments made, for any reason, to Plaintiff’s infringement theories, infringement

² Swedish Defendants ASSA ABLOY AB (“AA AB”), ASSA ABLOY Mobile Services AB (“AAMS AB”), and ASSA ABLOY Global Solutions AB (“AAGS AB”) (collectively, the “Swedish ASSA ABLOY Defendants” or “Defendants”).

contentions, or Asserted Claims. Furthermore, because fact discovery in this case is still in progress and expert discovery has not yet begun, because Defendants have not completed their investigation or analysis of information related to this action, and because various *inter partes* review (“IPR”) proceedings before the Patent Trial and Appeal Board (“PTAB”) have not yet concluded, Defendants’ Invalidity Contentions are preliminary and are based on Defendants’ current knowledge, understanding and belief as to the facts and information available as of the date of these Invalidity Contentions. Defendants, therefore, reserve the right to amend, supplement, or modify these Invalidity Contentions in a manner consistent with the Federal Rules of Civil Procedure, the applicable local rules, and the Docket Control Order (Dkt. No. 39).

Defendants also reserve the right to revise, amend and/or supplement their Invalidity Contentions in light of any action by the Patent and Trademark Office, including any determination by the PTAB as part of any IPR proceedings.

II. CLAIM CONSTRUCTION

These contentions are not, and should in no way be seen as, admissions or adoptions as to any particular claim scope or construction, or as any admission that any particular element is met in any particular way. Defendants provide these Invalidity Contentions prior to any claim construction ruling by the Court, as is required by the Local Patent Rules and the Docket Control Order in this case. However, because any invalidity analysis depends upon, among other issues, claim construction, Defendants reserve the right to revise, amend and/or supplement these contentions, including based on any claim construction position that Liberty may take in this case and after the claim terms have been construed by the Court. Furthermore, to the extent these Invalidity Contentions rely on or otherwise embody particular constructions of terms or phrases in the Asserted Claims, Defendants are not, at this point, proposing any such constructions to be proper constructions of those terms or phrases. The Docket Control Order (Dkt. No. 39) and

Patent Rules of the Eastern District of Texas establish deadlines for the parties' proposed constructions, and Defendants will disclose their proposed claim constructions at the times established by the Docket Control Order, Patent Rules, and any subsequent scheduling order that may be adopted in this case.

III. IDENTIFICATION OF PRIOR ART PURSUANT TO P.R. 3-3(A)³

Defendants contend that the prior art renders the asserted claims invalid as anticipated and/or obvious.

A. Prior Art Patents and Publications

Patent / Publication No.	Country of Origin	Date of Issue	Publication Date	Filing Date
U.S. 2007/0053313 A1 ("Adams") (Bates No. AA-LIBERTY-EDTX-00012413-22)	United States		Mar. 8, 2007	Sep. 6, 2005
WO 2001/063425 A1 ("Bröndrup") (Bates No. AA-LIBERTY-EDTX-00007749-75)	International		Aug. 30, 2001	Feb. 13, 2001
U.S. 6,385,728 ("DeBry") (Bates No. AA-LIBERTY-EDTX-00005897-912)	United States	May 7, 2002	May 7, 2002	Nov. 26, 1997
U.S. 8,730,004 ("Elfström") (Bates No. AA-LIBERTY-EDTX-00005454-71)	United States	May 20, 2014	May 20, 2014	Jan. 29, 2010
JP 2002-83087 ("Inoue") (Bates No. AA-LIBERTY-EDTX-00007253-66; AA-LIBERTY-EDTX-00009356-77)	Japan		Mar. 22, 2002	Sep. 6, 2000
U.S. 2009/0070272 ("Jain") (Bates No. AA-	United States		Mar. 12, 2009	Sep. 11, 2008

³ Defendants also hereby identify any systems or products that embody the technology described in any patent or publication identified in these Invalidity Contentions. Defendants reserve the right to rely on any documents or other evidence regarding any such systems.

LIBERTY-EDTX-00006271-99)				
U.S. 2003/0194089 A1 (“Kansala”) (Bates No. AA-LIBERTY-EDTX-00007920-27)	United States		Oct. 16, 2003	Apr. 9, 2003
WO 2008/076074 A1 (“Knutsson”) (Bates No. AA-LIBERTY-EDTX-00001135-75)	International		June 26, 2008	Dec. 19, 2007
U.S. 2005/0033962 A1 (“Libin”) (Bates No. AA-LIBERTY-EDTX-00005913-47)	United States		Feb. 10, 2005	Jul. 16, 2004
U.S. 7,353,396 (“Micali”) (Bates No. AA-LIBERTY-EDTX-00006027-74)	United States	Apr. 1, 2008	Apr. 1, 2008	Apr. 8, 2003
U.S. 2005/0060555 A1 (“Raghunath”) (Bates No. AA-LIBERTY-EDTX-00007282-91)	United States		Mar. 17, 2005	Sep. 12, 2003
U.S. 2010/0201536 A1 (“Robertson”) (Bates No. AA-LIBERTY-EDTX-00003908-18)	United States		Aug. 12, 2010	Feb. 10, 2009
U.S. 2009/0219133 A1 (“Woodard”) (Bates No. AA-LIBERTY-EDTX-00006184-220)	United States		Sep. 3, 2009	Feb. 28, 2008
U.S. 7,012,503 (“Nielsen”) (Bates No. AA-LIBERTY-EDTX-00007630-57)	United States	Mar. 14, 2006	Mar. 14, 2006	Nov. 30, 2000
WO2009/094683 A1 (“Ullmann”) (AA-LIBERTY-EDTX-00012288-325; AA-LIBERTY-EDTX-00006167-75)	International		Aug. 6, 2009	Jan. 30, 2009
U.S. 2005/0021954 A1 (“Kung”) (Bates No. AA-LIBERTY-EDTX-00012385-96)	United States		Jan. 27, 2005	Jul. 1, 2003
WO2006/101614 A1 (“Buckingham”) (Bates	International		Sep. 28, 2006	Feb. 7, 2006

No. AA-LIBERTY-EDTX-00006697-730)				
U.S. 2007/0173266 A1 (“Barnes”) (Bates No. AA-LIBERTY-EDTX-00010428-84)	United States		Jul. 26, 2007	Apr. 4, 2007

Defendants further identify the additional patent references found in **Exhibit H** as references that may be pertinent to one or more of the Asserted Patents.

B. Prior Art Non-Patent Literature

Defendants identify the non-patent literature references cited within Exhibits A-16, A-17, B-15, B-16, C-17, and C-18 as well as those found in **Exhibit I** as references that may be pertinent to one or more of the Asserted Patents.

C. Prior Art Sales/Public Uses

Item Offered for Sale and/or Publicly Used or Known	Date of Offer / Public Use / Knowledge⁴	Person or Entity Who Made and Received Offer, Made Public Use, or Made Information Known or to Whom Made Known
VingCard System (Bates No. AA-LIBERTY-EDTX-00012423-593; AA-LIBERTY-EDTX-00012596-602)	June 3, 2007	VingCard Elsafe
OpenWays (Bates No. AA-LIBERTY-EDTX-00012594)	November 2, 2009	OpenWays
Schlage Automated Lock	January 9, 2009	Schlage, Crayon Interface
Saflok RT™ Lock	December 31, 2009	Saflok
Saflok Quantum	November 31, 2008	Saflok
Oracode System	December 1, 2006	Kaba Access Control
Onity HT Prox	February 9, 2007	Onity

⁴ The dates in this column are the latest dates on which the systems were publicly used or known. Defendants reserve the right to identify earlier dates should such dates be ascertained through discovery. Defendants intend to subpoena third parties regarding these prior art systems and expressly reserve the right to amend or modify these Contentions based on additional information received from such discovery.

Onity Advance	September 20, 2009	Onity
Cisa Wave	August 13, 2009	Cisa
Salto Comfort	April 30, 2009	Salto
Salto Security	April 30, 2009	Salto

IV. INVALIDITY CONTENTIONS UNDER 35 U.S.C. §§ 102-103 PURSUANT TO P.R. 3-3(B)

Subject to Defendants’ reservation of rights above and in this section, and based on Defendants’ investigation to date, Defendants contend that the Asserted Claims are invalid as anticipated under 35 U.S.C. § 102 and/or obvious under 35 U.S.C. § 103 by the prior art patents, publications, and systems listed or identified below and/or described in the claim charts attached hereto and incorporated herein as Exhibits A-1 to A-17, B-1 to B-16 and C-1 to C-18. Pursuant to P.R. 3-3(b), Defendants’ Invalidity Contentions disclose whether each item of prior art anticipates each Asserted Claim or renders it obvious; and if a combination of items of prior art makes a claim obvious, Defendants’ Invalidity Contentions identify each such combination and the motivation to combine such items. In addition to demonstrating the invalidity of particular claims, the prior art referenced herein demonstrates the state of the art at the relevant time. Furthermore, Defendants contend that the existence of multiple prior art references disclosing a particular claim limitation is evidence that that claim limitation would have been generally known to a person of ordinary skill in the art at the relevant time (“POSITA”).

A. The ’205 Patent

Descriptions of the references and claim charts for the ’205 Patent are provided in the attached exhibits. *See* Ex. A-1–A-17. Additionally, as set forth in Exhibit E, Defendants have filed a petition seeking *Inter Partes* Review of the ’205 Patent. Defendants reserve their rights to modify the list of prior art they contend invalidates the Asserted Claims of the ’205 Patent, including in light of the PTAB’s actions with regard to Defendants’ IPR petitions as well as

events in this litigation, such as, for example, discovery and the Court's claim construction rulings.

Each prior art reference may be combined with one or more other prior art references to render obvious the Asserted Claims, as explained in more detail below. The disclosures of these references also may be combined with information known to POSITAs at the time of the alleged invention and understood and supplemented in view of the common sense of POSITAs at the time of the alleged invention. *See KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007) (explaining that the "background knowledge possessed by a person having ordinary skill in the art" is often a necessary consideration when determining whether there was a motivation to combine). Defendants contend that each charted prior art item can be combined with each other charted prior art item (individually or in combination) to the extent the prior art item lacks or does not explicitly disclose an element or feature of an Asserted Claim. The identification of any particular motivation, basis, or reason below or in the accompanying exhibits does not limit or preclude other motivations, bases, or reasons for combining the references. Indeed, due to the relationship of subject matter among the various references, the motivations for modifying or combining any one reference identified will likewise apply to any number of other identified references.

To the extent not explicitly disclosed by the prior art, the Asserted Claims are nothing more than a combination of standard, conventional elements already existing and well-known at the time of the purported invention, combined according to known methods to achieve predictable results. A POSITA would have been motivated to combine the teachings of these references with the knowledge of a POSITA and/or these references combined with one another because it is nothing more than (i) combinations of prior art elements according to known

methods to yield predictable results; (ii) simple substitution of one known element for another to obtain predictable results; (iii) use of a known technique to improve similar devices (methods, or products) in the same way; (iv) applying a known technique to a known device (method, or product) ready for improvement to yield predictable results; and/or (v) subject matter that some teaching, suggestion or motivation in the prior art would have led a POSITA to modify prior art references or to combine the prior art references' teachings.

A POSITA would be motivated to combine the references identified herein and in the accompanying charts and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well-understood problems in predictable ways. The references relate to common objectives and general subject matter and share other commonalities such as the types of equipment, products, and/or approaches used. For example, the references are directed to one or more of access control systems and wireless communications. The references are, therefore, within the field of the '205 patent and are directed to similar subject matter within the field. A POSITA would have been motivated to combine any of the charted references to enhance the functionality of an access control system, including security and ease of use.

It would have been obvious to a POSITA to modify or add a reservation certificate to any one of the primary references listed in the combinations below. The claimed reservation certificate is obvious because it is nothing more than (i) combinations of prior art elements according to known methods to yield predictable results; (ii) simple substitution of one known element for another to obtain predictable results; (iii) use of a known technique to improve similar devices (methods, or products) in the same way; (iv) applying a known technique to a known device (method, or product) ready for improvement to yield predictable results; and/or (v)

subject matter that some teaching, suggestion or motivation in the prior art would have led a POSITA to modify prior art references or to combine the prior art references' teachings. Using a reservation certificate to transfer critical data for granting access in an access control system was commonly known at the time, as evidenced by the cited prior art. A POSITA would have understood that using a reservation certificate to determine whether to grant access to a secure access control system would improve the functionality and security of the system by providing all necessary information for granting access in a single certificate. A POSITA would have had a reasonable expectation of success in modifying or combining the prior art reference(s) to add or modify the reservation certificate because doing so would require only the use of well-known and well-understood computing and software components, the function and operation of which would be readily understood, and which could be implemented with no more than the exercise of ordinary skill.

It would have been obvious to a POSITA to modify or add a reservation interval to any one of the primary references listed in the combinations below. The claimed reservation interval is obvious because it is nothing more than (i) combinations of prior art elements according to known methods to yield predictable results; (ii) simple substitution of one known element for another to obtain predictable results; (iii) use of a known technique to improve similar devices (methods, or products) in the same way; (iv) applying a known technique to a known device (method, or product) ready for improvement to yield predictable results; and/or (v) subject matter that some teaching, suggestion, or motivation in the prior art would have led a POSITA to modify prior art references or to combine the prior art references' teachings. Granting access for an interval of a reservation in an access control system was commonly known at the time, as evidenced by the cited prior art. A POSITA would have understood that using a reservation

interval to determine a time period during which to grant access to a secure access control system would improve the functionality and security of the system by providing temporary access only during an appropriate time interval. A POSITA would have had a reasonable expectation of success in modifying or combining the prior art reference(s) to add or modify an interval of reservation because doing so would require only the use of well-known and well-understood computing and software components, the function and operation of which would be readily understood, and which could be implemented with no more than the exercise of ordinary skill.

It would have been obvious to a POSITA to modify or add public and private key encryption, as claimed, to any one of the primary references listed in the combinations below. Public and private key encryption are obvious because they are nothing more than (i) combinations of prior art elements according to known methods to yield predictable results; (ii) simple substitution of one known element for another to obtain predictable results; (iii) use of a known technique to improve similar devices (methods, or products) in the same way; (iv) applying a known technique to a known device (method, or product) ready for improvement to yield predictable results; and/or (v) subject matter that some teaching, suggestion or motivation in the prior art would have led a POSITA to modify prior art references or to combine the prior art references' teachings. Various encryption and decryption techniques, including public key and private key techniques, were commonly known at the time, as evidenced by the cited prior art. A POSITA would have understood that implementing these encryption techniques would improve the functionality and security of the system by providing enhanced security by avoiding unauthorized interceptions and ensuring the privacy of transmitted messages. A POSITA would have had a reasonable expectation of success in modifying or combining the prior art reference(s) to add or modify the encryption techniques because doing so would require only the

use of well-known and well-understood computing and software components, the function and operation of which would be readily understood, and which could be implemented with no more than the exercise of ordinary skill. Indeed, public and private key encryption methods were well-known methods of encrypting communications between two devices and a POSITA would have known how to implement these common-place encryption methods.

The Asserted Claims of the '205 Patent are anticipated and/or rendered obvious by the following references and combinations of references, organized by primary reference. The following combinations are exemplary and not limiting.

Bröndrup Grounds

- Bröndrup (Ex. A-1) anticipates and/or renders obvious claims 1-11, 13-19, and 21-23 alone or in combination with one or more of Libin (Ex. A-4), Knutsson (Ex. A-3), Robertson (Ex. A-5), Woodard (Ex. A-6), Elfström (Ex. A-2), Kansala (Ex. A-8), Nielsen (Ex. A-11), and Ullmann (Ex. A-12).
- To the extent Bröndrup does not expressly disclose the claimed reservation certificate, Bröndrup (Ex. A-1) alone or in the combinations above and further in combination with one or more of Robertson (Ex. A-5), Woodard (Ex. A-6), Knutsson (Ex. A-3), Elfström (Ex. A-2), Kansala (Ex. A-8), Nielsen (Ex. A-11), Ullmann (Ex. A-12), Kung (Ex. A-13), Buckingham (Ex. A-14), and Barnes (Ex. A-15) renders this obvious.
- To the extent Bröndrup does not expressly disclose the claimed reservation interval durations, Bröndrup (Ex. A-1) alone or in the combinations above and further in combination with Micali (Ex. A-9), Nielsen (Ex. A-11), and Barnes (Ex. A-15) renders this obvious.

- To the extent Bröndrup does not expressly disclose encryption using a public or private key, as claimed, Bröndrup (Ex. A-1) alone or in the combinations above and further in combination with one or more of Raghunath (Ex. A-10), DeBry (Ex. A-7), Kansala (Ex. A-8), and Kung (Ex. A-13) renders this obvious.

Elfström Grounds

- Elfström (Ex. A-2) anticipates and/or renders obvious claims 1-11, 13-19, and 21-23 alone or in combination with one or more of Libin (Ex. A-4), Knutsson (Ex. A-3), Robertson (Ex. A-5), Woodard (Ex. A-6), Bröndrup (Ex. A-1), Kansala (Ex. A-8), Nielsen (Ex. A-11), and Ullmann (Ex. A-12).
- To the extent Elfström does not expressly disclose the claimed reservation certificate, Elfström (Ex. A-2) alone or in the combinations above and further in combination with one or more of Bröndrup (Ex. A-1), Robertson (Ex. A-5), Woodard (Ex. A-6), Knutsson (Ex. A-3), Kansala (Ex. A-8), Nielsen (Ex. A-11), Ullmann (Ex. A-12), Kung (Ex. A-13), Buckingham (Ex. A-14), and Barnes (Ex. A-15) renders this obvious.
- To the extent Elfström does not expressly disclose the claimed reservation interval durations, Elfström (Ex. A-2) alone or in the combinations above and further in combination with Micali (Ex. A-9), Nielsen (Ex. A-11), and Barnes (Ex. A-15) renders this obvious.
- To the extent Elfström does not expressly disclose encryption using a public or private key, as claimed, Elfström (Ex. A-2) alone or in the combinations above and further in combination with one or more of Raghunath (Ex. A-10), DeBry (Ex. A-7), Kansala (Ex. A-8), and Kung (Ex. A-13) renders this obvious.

Knutsson Grounds

- Knutsson (Ex. A-3) anticipates and/or renders obvious claims 1-11, 13-19, and 21-23 alone or in combination with one or more of Libin (Ex. A-4), Robertson (Ex. A-5), Woodard (Ex. A-6), Elfström (Ex. A-2), Bröndrup (Ex. A-1), Kansala (Ex. A-8), Nielsen (Ex. A-11), and Ullmann (Ex. A-12).
- To the extent Knutsson does not expressly disclose the claimed reservation certificate, Knutsson (Ex. A-3) alone or in the combinations above and further in combination with one or more of Bröndrup (Ex. A-1), Robertson (Ex. A-5), Woodard (Ex. A-6), Elfström (Ex. A-2), Kansala (Ex. A-8), Nielsen (Ex. A-11), Ullmann (Ex. A-12), Kung (Ex. A-13), Buckingham (Ex. A-14), and Barnes (Ex. A-15) renders this obvious.
- To the extent Knutsson does not expressly disclose the claimed reservation interval durations, Knutsson (Ex. A-3) alone or in the combinations above and further in combination with Micali (Ex. A-9), Nielsen (Ex. A-11), and Barnes (Ex. A-15) renders this obvious.
- To the extent Knutsson does not expressly disclose encryption using a public or private key, as claimed, Knutsson (Ex. A-3) alone or in the combinations above and further in combination with one or more of Raghunath (Ex. A-10), DeBry (Ex. A-7), Kansala (Ex. A-8), and Kung (Ex. A-13) renders this obvious.

Libin Grounds

- Libin (Ex. A-4) anticipates and/or renders obvious claims 1-11, 13-19, and 21-23 alone or in combination with one or more of Knutsson (Ex. A-3), Robertson (Ex. A-5), Woodard (Ex. A-6), Elfström (Ex. A-2), Bröndrup (Ex. A-1), Kansala (Ex. A-8), Nielsen (Ex. A-11), and Ullmann (Ex. A-12).

- To the extent Libin does not expressly disclose the claimed reservation certificate, Libin (Ex. A-4) alone or in the combinations above and further in combination with one or more of Bröndrup (Ex. A-1), Robertson (Ex. A-5), Woodard (Ex. A-6), Knutsson (Ex. A-3), Elfström (Ex. A-2), Kansala (Ex. A-8), Nielsen (Ex. A-11), Ullmann (Ex. A-12), Kung (Ex. A-13), Buckingham (Ex. A-14), and Barnes (Ex. A-15) renders this obvious.
- To the extent Libin does not expressly disclose the claimed reservation interval durations, Libin (Ex. A-4) alone or in the combinations above and further in combination with Micali (Ex. A-9), Nielsen (Ex. A-11), and Barnes (Ex. A-15) renders this obvious.
- To the extent Libin does not expressly disclose encryption using a public or private key, as claimed, Libin (Ex. A-4) alone or in the combinations above and further in combination with one or more of Raghunath (Ex. A-10), DeBry (Ex. A-7), Kansala (Ex. A-8), and Kung (Ex. A-13) renders this obvious.

Robertson Grounds

- Robertson (Ex. A-5) anticipates and/or renders obvious claims 1-11, 13-19, and 21-23 alone or in combination with one or more of Libin (Ex. A-4), Knutsson (Ex. A-3), Woodard (Ex. A-6), Elfström (Ex. A-2), Bröndrup (Ex. A-1), Kansala (Ex. A-8), Nielsen (Ex. A-11), and Ullmann (Ex. A-12).
- To the extent Robertson does not expressly disclose the claimed reservation certificate, Robertson (Ex. A-5) alone or in the combinations above and further in combination with one or more of Bröndrup (Ex. A-1), Woodard (Ex. A-6), Knutsson (Ex. A-3), Elfström (Ex. A-2), Kansala (Ex. A-8), Nielsen (Ex. A-11), Ullmann (Ex. A-12), Kung (Ex. A-13), Buckingham (Ex. A-14), and Barnes (Ex. A-15) renders this obvious.

- To the extent Robertson does not expressly disclose the claimed reservation interval durations, Robertson (Ex. A-5) alone or in the combinations above and further in combination with Micali (Ex. A-9), Nielsen (Ex. A-11), and Barnes (Ex. A-15) renders this obvious.
- To the extent Robertson does not expressly disclose encryption using a public or private key, as claimed, Robertson (Ex. A-5) alone or in the combinations above and further in combination with one or more of Raghunath (Ex. A-10), DeBry (Ex. A-7), Kansala (Ex. A-8), and Kung (Ex. A-13) renders this obvious.

Woodard Grounds

- Woodard (Ex. A-6) anticipates and/or renders obvious claims 1-11, 13-19, and 21-23 alone or in combination with one or more of Libin (Ex. A-4), Knutsson (Ex. A-3), Elfström (Ex. A-2), Bröndrup (Ex. A-1), Robertson (Ex. A-5), Kansala (Ex. A-8), Nielsen (Ex. A-11), and Ullmann (Ex. A-12).
- To the extent Woodard does not expressly disclose the claimed reservation certificate, Woodard (Ex. A-6) alone or in the combinations above and further in combination with one or more of Bröndrup (Ex. A-1), Knutsson (Ex. A-3), Elfström (Ex. A-2), Robertson (Ex. A-5), Kansala (Ex. A-8), Nielsen (Ex. A-11), Ullmann (Ex. A-12), Kung (Ex. A-13), Buckingham (Ex. A-14), and Barnes (Ex. A-15) renders this obvious.
- To the extent Woodard does not expressly disclose the claimed reservation interval durations, Woodard (Ex. A-6) alone or in the combinations above and further in combination with Micali (Ex. A-9), Nielsen (Ex. A-11), and Barnes (Ex. A-15) renders this obvious.

- To the extent Woodard does not expressly disclose encryption using a public or private key, as claimed, Woodard (Ex. A-6) alone or in the combinations above and further in combination with one or more of Raghunath (Ex. A-10), DeBry (Ex. A-7), Kansala (Ex. A-8), and Kung (Ex. A-13) renders this obvious.

Kansala Grounds

- Kansala (Ex. A-8) anticipates and/or renders obvious claims 1-11, 13-19, and 21-23 alone or in combination with one or more of Libin (Ex. A-4), Knutsson (Ex. A-3), Robertson (Ex. A-5), Woodard (Ex. A-6), Elfström (Ex. A-2), Bröndrup (Ex. A-1), Nielsen (Ex. A-11), and Ullmann (Ex. A-12).
- To the extent Kansala does not expressly disclose the claimed reservation certificate, Kansala (Ex. A-8) alone or in the combinations above and further in combination with one or more of Bröndrup (Ex. A-1), Robertson (Ex. A-5), Woodard (Ex. A-6), Knutsson (Ex. A-3), Elfström (Ex. A-2), Nielsen (Ex. A-11), Ullmann (Ex. A-12), Kung (Ex. A-13), Buckingham (Ex. A-14), and Barnes (Ex. A-15) renders this obvious.
- To the extent Kansala does not expressly disclose the claimed reservation interval durations, Kansala (Ex. A-8) alone or in the combinations above and further in combination with Micali (Ex. A-9), Nielsen (Ex. A-11), and Barnes (Ex. A-15) renders this obvious.
- To the extent Kansala does not expressly disclose encryption using a public or private key, as claimed, Kansala (Ex. A-8) alone or in the combinations above and further in combination with one or more of Raghunath (Ex. A-10), DeBry (Ex. A-7), and Kung (Ex. A-13) renders this obvious.

Nielsen Grounds

- Nielsen (Ex. A-11) anticipates and/or renders obvious claims 1-11, 13-19, and 21-23 alone or in combination with one or more of Libin (Ex. A-4), Knutsson (Ex. A-3), Robertson (Ex. A-5), Woodard (Ex. A-6), Elfström (Ex. A-2), Bröndrup (Ex. A-1), and Ullmann (Ex. A-12).
- To the extent Nielsen does not expressly disclose the claimed reservation certificate, Nielsen (Ex. A-11) alone or in the combinations above and further in combination with one or more of Bröndrup (Ex. A-1), Robertson (Ex. A-5), Woodard (Ex. A-6), Knutsson (Ex. A-3), Elfström (Ex. A-2), Ullmann (Ex. A-12), Kung (Ex. A-13), Buckingham (Ex. A-14), and Barnes (Ex. A-15) renders this obvious.
- To the extent Nielsen does not expressly disclose the claimed reservation interval durations, Nielsen (Ex. A-11) alone or in the combinations above and further in combination with Micali (Ex. A-9) and Barnes (Ex. A-15) renders this obvious.
- To the extent Nielsen does not expressly disclose encryption using a public or private key, as claimed, Nielsen (Ex. A-11) alone or in the combinations above and further in combination with one or more of Raghunath (Ex. A-10), DeBry (Ex. A-7), Kansala (Ex. A-8), and Kung (Ex. A-13) renders this obvious.

Ullmann Grounds

- Ullmann (Ex. A-12) anticipates and/or renders obvious claims 1-11, 13-19, and 21-23 alone or in combination with one or more of Libin (Ex. A-4), Knutsson (Ex. A-3), Robertson (Ex. A-5), Woodard (Ex. A-6), Elfström (Ex. A-2), Bröndrup (Ex. A-1), Kansala (Ex. A-8), and Nielsen (Ex. A-11).
- To the extent Ullmann does not expressly disclose the claimed reservation certificate, Ullmann (Ex. A-12) alone or in the combinations above and further in combination with

one or more of Bröndrup (Ex. A-1), Robertson (Ex. A-5), Woodard (Ex. A-6), Knutsson (Ex. A-3), Elfström (Ex. A-2), Kung (Ex. A-13), Nielsen (Ex. A-11), Buckingham (Ex. A-14), and Barnes (Ex. A-15) renders this obvious.

- To the extent Ullmann does not expressly disclose the claimed reservation interval durations, Ullmann (Ex. A-12) alone or in the combinations above and further in combination with Micali (Ex. A-9), Nielsen (Ex. A-11), and Barnes (Ex. A-15) renders this obvious.
- To the extent Ullmann does not expressly disclose encryption using a public or private key, as claimed, Ullmann (Ex. A-12) alone or in the combinations above and further in combination with one or more of Raghunath (Ex. A-10), DeBry (Ex. A-7), Kansala (Ex. A-8), and Kung (Ex. A-13) renders this obvious.

B. The '747 Patent

Descriptions of the references and claim charts for the '747 Patent are provided in the attached exhibits. *See* Ex. B-1–B-16. Additionally, as set forth in Exhibits F, Defendants have filed a petition seeking *Inter Partes* Review of the '747 Patent. Defendants reserve their rights to modify the list of prior art they contend invalidates the Asserted Claims of the '747 Patent, including in light of the PTAB's actions with regard to Defendants' IPR petition as well as events in this litigation, such as, for example, discovery and the Court's claim construction rulings.

Each prior art reference may be combined with one or more other prior art references to render obvious the Asserted Claims, as explained in more detail below. The disclosures of these references also may be combined with information known to POSITAs at the time of the alleged invention and understood and supplemented in view of the common sense of POSITAs at the

time of the alleged invention. *See* KSR, 550 U.S. at 418. Defendants contend that each charted prior art item can be combined with each other charted prior art item (individually or in combination) to the extent the prior art item lacks or does not explicitly disclose an element or feature of an Asserted Claim. The identification of any particular motivation, basis or reason below or in the accompanying exhibits does not limit or preclude other motivations, bases, or reasons for combining the references. Indeed, due to the relationship of subject matter among the various references, the motivations for modifying or combining any one reference identified will likewise apply to any number of other identified references.

To the extent not explicitly disclosed by the prior art, the asserted claims are nothing more than a combination of standard, conventional elements already existing and well-known at the time of the purported invention, combined according to known methods to achieve predictable results. A POSITA would have been motivated to combine the teachings of these references with the knowledge of a POSITA and/or these references combined with one another because it is nothing more than (i) combinations of prior art elements according to known methods to yield predictable results; (ii) simple substitution of one known element for another to obtain predictable results; (iii) use of a known technique to improve similar devices (methods, or products) in the same way; (iv) applying a known technique to a known device (method, or product) ready for improvement to yield predictable results; and/or (v) subject matter that some teaching, suggestion or motivation in the prior art would have led a POSITA to modify prior art references or to combine the prior art references' teachings.

A POSITA would be motivated to combine the references identified herein and in the accompanying charts and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well-

understood problems in predictable ways. The references relate to common objectives and general subject matter and share other commonalities such as the types of equipment, products, and/or approaches used. For example, the references are directed to one or more of access control systems and wireless communications. The references are therefore within the field of the '747 patent and are directed to similar subject matter within the field. A POSITA would have been motivated to combine any of the charted references to enhance the functionality of an access control system, including security and ease of use.

It would have been obvious to a POSITA to modify or add a reservation certificate to any one of the primary references listed in the combinations below. The claimed reservation certificate is obvious because it is nothing more than (i) combinations of prior art elements according to known methods to yield predictable results; (ii) simple substitution of one known element for another to obtain predictable results; (iii) use of a known technique to improve similar devices (methods, or products) in the same way; (iv) applying a known technique to a known device (method, or product) ready for improvement to yield predictable results; and/or (v) subject matter that some teaching, suggestion, or motivation in the prior art would have led a POSITA to modify prior art references or to combine the prior art references' teachings. Using a reservation certificate to transfer critical data for granting access in an access control system was commonly known at the time, as evidenced by the cited prior art. A POSITA would have understood that using a reservation certificate to determine whether to grant access to a secure access control system would improve the functionality and security of the system by providing all necessary information for granting access in a single certificate. A POSITA would have had a reasonable expectation of success in modifying or combining the prior art reference(s) to add or modify the reservation certificate because doing so would require only the use of well-known

and well-understood computing and software components, the function and operation of which would be readily understood, and which could be implemented with no more than the exercise of ordinary skill.

It would have been obvious to a POSITA to modify or add an application to the access device in any one of the primary references listed in the combinations below. The claimed application is obvious because it is nothing more than (i) combinations of prior art elements according to known methods to yield predictable results; (ii) simple substitution of one known element for another to obtain predictable results; (iii) use of a known technique to improve similar devices (methods, or products) in the same way; (iv) applying a known technique to a known device (method, or product) ready for improvement to yield predictable results; and/or (v) subject matter that some teaching, suggestion or motivation in the prior art would have led a POSITA to modify prior art references or to combine the prior art references' teachings. Using an application on an access device for granting access in an access control system was commonly known at the time, as evidenced by the cited prior art. A POSITA would have understood that using a software application on an access device would improve the functionality and usability of the system by providing a simple software interface to manage communications and data transmissions. A POSITA would have had a reasonable expectation of success in modifying or combining the prior art reference(s) to add or modify the reservation certificate because doing so would require only the use of well-known and well-understood computing and software components, the function and operation of which would be readily understood, and which could be implemented with no more than the exercise of ordinary skill.

It would have been obvious to a POSITA to modify or add a Bluetooth transceiver to any one of the primary references listed in the combinations below. The claimed Bluetooth

transceiver is obvious because it is nothing more than (i) combinations of prior art elements according to known methods to yield predictable results; (ii) simple substitution of one known element for another to obtain predictable results; (iii) use of a known technique to improve similar devices (methods, or products) in the same way; (iv) applying a known technique to a known device (method, or product) ready for improvement to yield predictable results; and/or (v) subject matter that some teaching, suggestion or motivation in the prior art would have led a POSITA to modify prior art references or to combine the prior art references' teachings.

Bluetooth communications were commonly used and well-known at the time, as evidenced by the cited prior art. A POSITA would have understood that using a Bluetooth transceiver to transmit and receive data necessary to grant access to a secure access control system would improve the functionality and security of the system by providing a simple, generic protocol that developers and users alike would have been familiar with. A POSITA would have had a reasonable expectation of success in modifying or combining the prior art reference(s) to add or modify a Bluetooth transceiver because doing so would require only the use of well-known and well-understood computing and software components, the function and operation of which would be readily understood, and which could be implemented with no more than the exercise of ordinary skill.

It would have been obvious to a POSITA to modify or add encryption and decryption, as claimed, to any one of the primary references listed in the combinations below. Encryption and decryption in the access control space are obvious because they are nothing more than (i) combinations of prior art elements according to known methods to yield predictable results; (ii) simple substitution of one known element for another to obtain predictable results; (iii) use of a known technique to improve similar devices (methods, or products) in the same way; (iv)

applying a known technique to a known device (method, or product) ready for improvement to yield predictable results; and/or (v) subject matter that some teaching, suggestion or motivation in the prior art would have led a POSITA to modify prior art references or to combine the prior art references' teachings. Various encryption and decryption techniques were commonly known at the time, as evidenced by the cited prior art. A POSITA would have understood that implementing these encryption and decryption techniques would improve the functionality and security of the system by providing enhanced security by avoiding unauthorized interceptions and ensuring the privacy of transmitted messages. A POSITA would have had a reasonable expectation of success in modifying or combining the prior art reference(s) to add or modify encryption and decryption because doing so would require only the use of well-known and well-understood computing and software components, the function and operation of which would be readily understood, and which could be implemented with no more than the exercise of ordinary skill. Indeed, public and private key encryption methods were well-known methods of encrypting communications between two devices and a POSITA would have known how to implement these common-place encryption and decryption methods.

It would have been obvious to a POSITA to modify or add a reservation interface as claimed to any one of the primary references listed in the combinations below. The claimed reservation interface is obvious because it is nothing more than (i) combinations of prior art elements according to known methods to yield predictable results; (ii) simple substitution of one known element for another to obtain predictable results; (iii) use of a known technique to improve similar devices (methods, or products) in the same way; (iv) applying a known technique to a known device (method, or product) ready for improvement to yield predictable results; and/or (v) subject matter that some teaching, suggestion or motivation in the prior art

would have led a POSITA to modify prior art references or to combine the prior art references' teachings. User interfaces that allowed users to make reservations, for example, for a hotel stay, were commonly used and well-known at the time, as evidenced by the cited prior art. A POSITA would have understood that implementing a reservation interface to allow a user to select and place a reservation in order to receive temporary access in accordance with the reservation would improve the functionality and usability of the system by providing a simple, easy-to-use means for making selections and reservations. A POSITA would have had a reasonable expectation of success in modifying or combining the prior art reference(s) to add or modify a reservation interface because doing so would require only the use of well-known and well-understood computing and software components, the function and operation of which would be readily understood, and which could be implemented with no more than the exercise of ordinary skill.

It would have been obvious to a POSITA to modify or add a communication setting corresponding to an access device as claimed to any one of the primary references listed in the combinations below. The claimed communication setting is obvious because it is nothing more than (i) combinations of prior art elements according to known methods to yield predictable results; (ii) simple substitution of one known element for another to obtain predictable results; (iii) use of a known technique to improve similar devices (methods, or products) in the same way; (iv) applying a known technique to a known device (method, or product) ready for improvement to yield predictable results; and/or (v) subject matter that some teaching, suggestion or motivation in the prior art would have led a POSITA to modify prior art references or to combine the prior art references' teachings. Communication settings were commonly used and well-known at the time, as evidenced by the cited prior art. The '747 patent provides examples of communication settings "such as the network SSID, passcodes, IP addresses,

Bluetooth ID, etc.” (’747 patent, 4:65-66)—all of which are generic, commonly used identifiers for a communication device. A POSITA would have understood that implementing a communication setting to identify the access device would improve the function and security of the system by ensuring the appropriate access device is receiving the request for access. A POSITA would have had a reasonable expectation of success in modifying or combining the prior art reference(s) to add or modify a communication setting because doing so would require only the use of well-known and well-understood computing and software components, the function and operation of which would be readily understood, and which could be implemented with no more than the exercise of ordinary skill.

It would have been obvious to a POSITA to modify or add selecting one or more amenities as claimed to any one of the primary references listed in the combinations below. The claimed selection of amenities is obvious because it is nothing more than (i) combinations of prior art elements according to known methods to yield predictable results; (ii) simple substitution of one known element for another to obtain predictable results; (iii) use of a known technique to improve similar devices (methods, or products) in the same way; (iv) applying a known technique to a known device (method, or product) ready for improvement to yield predictable results; and/or (v) subject matter that some teaching, suggestion or motivation in the prior art would have led a POSITA to modify prior art references or to combine the prior art references’ teachings. User interfaces that allowed users to make reservations, for example, for a hotel stay, including selecting particular amenities for the desired reservation, were commonly used and well-known at the time, as evidenced by the cited prior art. A POSITA would have understood that allowing selection of amenities during the reservation process would improve the functionality and usability of the system by providing a simple, easy-to-use means for making

selections to ensure a user is reserving a space that suits their needs. A POSITA would have had a reasonable expectation of success in modifying or combining the prior art reference(s) to add or modify selection of amenities because doing so would require only the use of well-known and well-understood computing and software components, the function and operation of which would be readily understood, and which could be implemented with no more than the exercise of ordinary skill.

The Asserted Claims of the '747 Patent are anticipated and/or rendered obvious by the following references and combinations, organized by primary reference. The following combinations are exemplary and not limiting.

Bröndrup Grounds

- Bröndrup (Ex. B-1) anticipates and/or renders obvious claims 1-14 alone or in combination with one or more of Knutsson (Ex. B-2), Woodard (Ex. B-4), Robertson (Ex. B-3), Nielsen (Ex. B-12), and Ullmann (Ex. B-13).
- To the extent Bröndrup does not expressly disclose the claimed reservation certificate, Bröndrup (Ex. B-1) alone or in the combinations above and further in combination with one or more of Woodard (Ex. B-4), Knutsson (Ex. B-2), Robertson (Ex. A-5), Elfström (Ex. B-11), Kansala (Ex. B-7), Micali (Ex. B-9), Nielsen (Ex. B-12), Ullmann (Ex. B-13), and Barnes (Ex. B-14) renders this obvious.
- To the extent Bröndrup does not expressly disclose the claimed application, Bröndrup (Ex. B-1) alone or in the combinations above and further in combination with one or more of Knutsson (Ex. B-2), Woodard (Ex. B-4), and Inoue (Ex. B-6) renders this obvious.

- To the extent Bröndrup does not expressly disclose the claimed Bluetooth transceiver, Bröndrup (Ex. B-1) alone or in the combinations above and further in combination with one or more of Knutsson (Ex. B-2), Kansala (Ex. B-7), Robertson (Ex. B-3), and Nielsen (Ex. B-12) renders this obvious.
- To the extent Bröndrup does not expressly disclose encryption and decryption, as claimed, Bröndrup (Ex. B-1) alone or in the combinations above and further in combination with one or more of Raghunath (Ex. B-10), Knutsson (Ex. B-2), Kansala (Ex. B-7), Libin (Ex. B-8), Micali (Ex. B-9), Nielsen (Ex. B-12), Ullmann (Ex. B-13), and Barnes (Ex. B-14) renders this obvious.
- To the extent Bröndrup does not expressly disclose the claimed reservation interface, Bröndrup (Ex. B-1) alone or in the combinations above and further in combination with one or more of Knutsson (Ex. B-2), Woodard (Ex. B-4), Inoue (Ex. B-6), Robertson (Ex. B-3), Nielsen (Ex. B-12), Ullmann (Ex. B-13), and Barnes (Ex. B-14) renders this obvious.
- To the extent Bröndrup does not expressly disclose the claimed communication setting, Bröndrup (Ex. B-1) alone or in the combinations above and further in combination with one or more of Adams (Ex. B-5), Knutsson (Ex. B-2), Nielsen (Ex. B-12), and Ullmann (Ex. B-13) renders this obvious.
- To the extent Bröndrup does not expressly disclose selecting one or more amenities as claimed, Bröndrup (Ex. B-1) alone or in the combinations above and further in combination with Inoue (Ex. B-6) and Barnes (Ex. B-14) renders this obvious.

Knutsson Grounds

- Knutsson (Ex. B-2) anticipates and/or renders obvious claims 1-14 alone or in combination with one or more of Bröndrup (Ex. B-1), Woodard (Ex. B-4), Robertson (Ex. B-3), Nielsen (Ex. B-12), and Ullmann (Ex. B-13).
- To the extent Knutsson does not expressly disclose the claimed reservation certificate, Knutsson (Ex. B-2) alone or in the combinations above and further in combination with one or more of Bröndrup (Ex. B-1), Woodard (Ex. B-4), Robertson (Ex. B-3), Elfström (Ex. B-11), Kansala (Ex. B-7), Micali (Ex. B-9), Nielsen (Ex. B-12), Ullmann (Ex. B-13), and Barnes (Ex. B-14) renders this obvious.
- To the extent Knutsson does not expressly disclose the claimed application, Knutsson (Ex. B-2) alone or in the combinations above and further in combination with one or more of Woodard (Ex. B-4) and Inoue (Ex. B-6) renders this obvious.
- To the extent Knutsson does not expressly disclose the claimed Bluetooth transceiver, Knutsson (Ex. B-2) alone or in the combinations above and further in combination with one or more of Kansala (Ex. B-7), Robertson (Ex. B-3), and Nielsen (Ex. B-12) renders this obvious.
- To the extent Knutsson does not expressly disclose encryption and decryption, as claimed, Knutsson (Ex. B-2) alone or in the combinations above and further in combination with one or more of Raghunath (Ex. B-10), Kansala (Ex. B-7), Libin (Ex. B-8), Micali (Ex. B-9), Nielsen (Ex. B-12), Ullmann (Ex. B-13), and Barnes (Ex. B-14) renders this obvious.
- To the extent Knutsson does not expressly disclose the claimed reservation interface, Knutsson (Ex. B-2) alone or in the combinations above and further in combination with

one or more of Knutsson (Ex. B-2), Woodard (Ex. B-4), Inoue (Ex. B-6), Robertson (Ex. B-3), Nielsen (Ex. B-12), Ullmann (Ex. B-13), and Barnes (Ex. B-14) renders this obvious.

- To the extent Knutsson does not expressly disclose the claimed communication setting, Knutsson (Ex. B-2) alone or in the combinations above and further in combination with Adams (Ex. B-5), Nielsen (Ex. B-12), and Ullmann (Ex. B-13) renders this obvious.
- To the extent Knutsson does not expressly disclose selecting one or more amenities as claimed, Knutsson (Ex. B-2) alone or in the combinations above and further in combination with Inoue (Ex. B-6) and Barnes (Ex. B-14) renders this obvious.

Robertson Grounds

- Robertson (Ex. B-3) anticipates and/or renders obvious claims 1-14 alone or in combination with one or more of Knutsson (Ex. B-2), Woodard (Ex. B-4), Bröndrup (Ex. B-1), Nielsen (Ex. B-12), and Ullmann (Ex. B-13).
- To the extent Robertson does not expressly disclose the claimed reservation certificate, Robertson (Ex. B-3) alone or in the combinations above and further in combination with one or more of Bröndrup (Ex. B-1), Woodard (Ex. B-4), Knutsson (Ex. B-2), Elfström (Ex. B-11), Kansala (Ex. B-7), Micali (Ex. B-9), Nielsen (Ex. B-12), Ullmann (Ex. B-13), and Barnes (Ex. B-14) renders this obvious.
- To the extent Robertson does not expressly disclose the claimed application, Robertson (Ex. B-3) alone or in the combinations above and further in combination with one or more of Knutsson (Ex. B-2), Woodard (Ex. B-4), and Inoue (Ex. B-6) renders this obvious.

- To the extent Robertson does not expressly disclose the claimed Bluetooth transceiver, Robertson (Ex. B-3) alone or in the combinations above and further in combination with one or more of Knutsson (Ex. B-2), Kansala (Ex. B-7), and Nielsen (Ex. B-12) renders this obvious.
- To the extent Robertson does not expressly disclose encryption and decryption, as claimed, Robertson (Ex. B-3) alone or in the combinations above and further in combination with one or more of Raghunath (Ex. B-10), Knutsson (Ex. B-2), Kansala (Ex. B-7), Libin (Ex. B-8), Micali (Ex. B-9), Nielsen (Ex. B-12), Ullmann (Ex. B-13), and Barnes (Ex. B-14) renders this obvious.
- To the extent Robertson does not expressly disclose the claimed reservation interface, Robertson (Ex. B-3) alone or in the combinations above and further in combination with one or more of Knutsson (Ex. B-2), Woodard (Ex. B-4), Inoue (Ex. B-6), Nielsen (Ex. B-12), Ullmann (Ex. B-13), and Barnes (Ex. B-14) renders this obvious.
- To the extent Robertson does not expressly disclose the claimed communication setting, Robertson (Ex. B-3) alone or in the combinations above and further in combination with one or more of Adams (Ex. B-5), Knutsson (Ex. B-2), Nielsen (Ex. B-12), and Ullmann (Ex. B-13) renders this obvious.
- To the extent Robertson does not expressly disclose selecting one or more amenities as claimed, Robertson (Ex. B-3) alone or in the combinations above and further in combination with Inoue (Ex. B-6) and Barnes (Ex. B-14) renders this obvious.

Woodard Grounds

- Woodard (Ex. B-4) anticipates and/or renders obvious claims 1-14 alone or in combination with one or more of Knutsson (Ex. B-2), Bröndrup (Ex. B-1), Robertson (Ex. B-3), Nielsen (Ex. B-12), and Ullmann (Ex. B-13).
- To the extent Woodard does not expressly disclose the claimed reservation certificate, Woodard (Ex. B-4) alone or in the combinations above and further in combination with one or more of Bröndrup (Ex. B-1), Knutsson (Ex. B-2), Robertson (Ex. B-3), Elfström (Ex. B-11), Kansala (Ex. B-7), Micali (Ex. B-9), Nielsen (Ex. B-12), Ullmann (Ex. B-13), and Barnes (Ex. B-14) renders this obvious.
- To the extent Woodard does not expressly disclose the claimed application, Woodard (Ex. B-4) alone or in the combinations above and further in combination with one or more of Knutsson (Ex. B-2) and Inoue (Ex. B-6) renders this obvious.
- To the extent Woodard does not expressly disclose the claimed Bluetooth transceiver, Woodard (Ex. B-4) alone or in the combinations above and further in combination with one or more of Knutsson (Ex. B-2), Kansala (Ex. B-7), Robertson (Ex. B-3), and Nielsen (Ex. B-12) renders this obvious.
- To the extent Woodard does not expressly disclose encryption and decryption, as claimed, Woodard (Ex. B-4) alone or in the combinations above and further in combination with one or more of Raghunath (Ex. B-10), Knutsson (Ex. B-2), Kansala (Ex. B-7), Libin (Ex. B-8), Micali (Ex. B-9), Nielsen (Ex. B-12), Ullmann (Ex. B-13), and Barnes (Ex. B-14) renders this obvious.
- To the extent Woodard does not expressly disclose the claimed reservation interface, Woodard (Ex. B-4) alone or in the combinations above and further in combination with

one or more of Knutsson (Ex. B-2), Inoue (Ex. B-6), Robertson (Ex. B-3), Nielsen (Ex. B-12), Ullmann (Ex. B-13), and Barnes (Ex. B-14) renders this obvious.

- To the extent Woodard does not expressly disclose the claimed communication setting, Woodard (Ex. B-4) alone or in the combinations above and further in combination with one or more of Adams (Ex. B-5), Knutsson (Ex. B-2), Nielsen (Ex. B-12), and Ullmann (Ex. B-13) renders this obvious.
- To the extent Woodard does not expressly disclose selecting one or more amenities as claimed, Woodard (Ex. B-4) alone or in the combinations above and further in combination with Inoue (Ex. B-6) and Barnes (Ex. B-14) renders this obvious.

Nielsen Grounds

- Nielsen (Ex. B-12) anticipates and/or renders obvious claims 1-14 alone or in combination with one or more of Knutsson (Ex. B-2), Woodard (Ex. B-4), Bröndrup (Ex. B-1), Robertson (Ex. B-3), and Ullmann (Ex. B-13).
- To the extent Nielsen does not expressly disclose the claimed reservation certificate, Nielsen (Ex. B-12) alone or in the combinations above and further in combination with one or more of Bröndrup (Ex. B-1), Woodard (Ex. B-4), Knutsson (Ex. B-2), Robertson (Ex. B-3), Elfström (Ex. B-11), Kansala (Ex. B-7), Micali (Ex. B-9), Ullmann (Ex. B-13), and Barnes (Ex. B-14) renders this obvious.
- To the extent Nielsen does not expressly disclose the claimed application, Nielsen (Ex. B-12) alone or in the combinations above and further in combination with one or more of Knutsson (Ex. B-2), Woodard (Ex. B-4), and Inoue (Ex. B-6) renders this obvious.
- To the extent Nielsen does not expressly disclose the claimed Bluetooth transceiver, Nielsen (Ex. B-12) alone or in the combinations above and further in combination with

one or more of Knutsson (Ex. B-2), Kansala (Ex. B-7), and Robertson (Ex. B-3) renders this obvious.

- To the extent Nielsen does not expressly disclose encryption and decryption, as claimed, Nielsen (Ex. B-12) alone or in the combinations above and further in combination with one or more of Raghunath (Ex. B-10), Knutsson (Ex. B-2), Kansala (Ex. B-7), Libin (Ex. B-8), Micali (Ex. B-9), Ullmann (Ex. B-13), and Barnes (Ex. B-14) renders this obvious.
- To the extent Nielsen does not expressly disclose the claimed reservation interface, Nielsen (Ex. B-12) alone or in the combinations above and further in combination with one or more of Knutsson (Ex. B-2), Woodard (Ex. B-4), Inoue (Ex. B-6), Ullmann (Ex. B-13), and Barnes (Ex. B-14) renders this obvious.
- To the extent Nielsen does not expressly disclose the claimed communication setting, Nielsen (Ex. B-12) alone or in the combinations above and further in combination with one or more of Adams (Ex. B-5), Knutsson (Ex. B-2), and Ullmann (Ex. B-13) renders this obvious.
- To the extent Nielsen does not expressly disclose selecting one or more amenities as claimed, Nielsen (Ex. B-12) alone or in the combinations above and further in combination with Inoue (Ex. B-6) and Barnes (Ex. B-14) renders this obvious.

Ullmann Grounds

- Ullmann (Ex. B-13) anticipates and/or renders obvious claims 1-14 alone or in combination with one or more of Knutsson (Ex. B-2), Woodard (Ex. B-4), Bröndrup (Ex. B-1), Robertson (Ex. B-3), and Nielsen (Ex. B-12).
- To the extent Ullmann does not expressly disclose the claimed reservation certificate, Ullmann (Ex. B-13) alone or in the combinations above and further in combination with

one or more of Bröndrup (Ex. B-1), Woodard (Ex. B-4), Knutsson (Ex. B-2), Robertson (Ex. B-3), Elfström (Ex. B-11), Kansala (Ex. B-7), Micali (Ex. B-9), Nielsen (Ex. B-12), and Barnes (Ex. B-14) renders this obvious.

- To the extent Ullmann does not expressly disclose the claimed application, Ullmann (Ex. B-13) alone or in the combinations above and further in combination with one or more of Knutsson (Ex. B-2), Woodard (Ex. B-4), and Inoue (Ex. B-6) renders this obvious.
- To the extent Ullmann does not expressly disclose the claimed Bluetooth transceiver, Ullmann (Ex. B-13) alone or in the combinations above and further in combination with one or more of Knutsson (Ex. B-2), Kansala (Ex. B-7), Robertson (Ex. B-3), and Nielsen (Ex. B-12) renders this obvious.
- To the extent Ullmann does not expressly disclose encryption and decryption, as claimed, Ullmann (Ex. B-13) alone or in the combinations above and further in combination with one or more of Raghunath (Ex. B-10), Knutsson (Ex. B-2), Kansala (Ex. B-7), Libin (Ex. B-8), Micali (Ex. B-9), Nielsen (Ex. B-12), and Barnes (Ex. B-14) renders this obvious.
- To the extent Ullmann does not expressly disclose the claimed reservation interface, Ullmann (Ex. B-13) alone or in the combinations above and further in combination with one or more of Knutsson (Ex. B-2), Woodard (Ex. B-4), Inoue (Ex. B-6), Nielsen (Ex. B-12), and Barnes (Ex. B-14) renders this obvious.
- To the extent Ullmann does not expressly disclose the claimed communication setting, Ullmann (Ex. B-13) alone or in the combinations above and further in combination with one or more of Adams (Ex. B-5), Knutsson (Ex. B-2), and Nielsen (Ex. B-12) renders this obvious.

- To the extent Ullmann does not expressly disclose selecting one or more amenities as claimed, Ullmann (Ex. B-13) alone or in the combinations above and further in combination with Inoue (Ex. B-6) and Barnes (Ex. B-14) renders this obvious.

C. The '474 Patent

Descriptions of the references and claim charts for the '474 Patent are provided in the attached exhibits. *See* Ex. C-1–C-18. Additionally, as set forth in Exhibits G, Defendants have filed a petition seeking *Inter Partes* Review of the '474 Patent. Defendants reserve their rights to modify the list of prior art they contend invalidates the Asserted Claims of the '474 Patent, including in light of the PTAB's actions with regard to Defendants' IPR petition as well as events in this litigation, such as, for example, discovery and the Court's claim construction rulings.

Each prior art reference may be combined with one or more other prior art references to render obvious the Asserted Claims, as explained in more detail below. The disclosures of these references also may be combined with information known to POSITAs at the time of the alleged invention and understood and supplemented in view of the common sense of POSITAs at the time of the alleged invention. *See* KSR, 550 U.S. at 418. Defendants contend that each charted prior art item can be combined with each other charted prior art item (individually or in combination) to the extent the prior art item lacks or does not explicitly disclose an element or feature of an Asserted Claim. The identification of any particular motivation, basis or reason below or in the accompanying exhibits does not limit or preclude other motivations, bases or reasons for combining the references. Indeed, due to the relationship of subject matter among the various references, the motivations for modifying or combining any one reference identified will likewise apply to any number of other identified references.

To the extent not explicitly disclosed by the prior art, the asserted claims are nothing more than a combination of standard, conventional elements already existing and well-known at the time of the purported invention, combined according to known methods to achieve predictable results. A POSITA would have been motivated to combine the teachings of these references with the knowledge of a POSITA and/or these references combined with one another because it is nothing more than (i) combinations of prior art elements according to known methods to yield predictable results; (ii) simple substitution of one known element for another to obtain predictable results; (iii) use of a known technique to improve similar devices (methods, or products) in the same way; (iv) applying a known technique to a known device (method, or product) ready for improvement to yield predictable results; and/or (v) subject matter that some teaching, suggestion or motivation in the prior art would have led a POSITA to modify prior art references or to combine the prior art references' teachings.

A POSITA would be motivated to combine the references identified herein and in the accompanying charts and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well-understood problems in predictable ways. The references relate to common objectives and general subject matter and share other commonalities such as the types of equipment, products, and/or approaches used. For example, the references are directed to one or more of access control systems and wireless communications. The references are therefore within the field of the '474 patent and are directed to similar subject matter within the field. A POSITA would have been motivated to combine any of the charted references to enhance the functionality of an access control system, including security and ease of use.

It would have been obvious to a POSITA to modify or add a reservation certificate to any one of the primary references listed in the combinations below. The claimed reservation certificate is obvious because it is nothing more than (i) combinations of prior art elements according to known methods to yield predictable results; (ii) simple substitution of one known element for another to obtain predictable results; (iii) use of a known technique to improve similar devices (methods, or products) in the same way; (iv) applying a known technique to a known device (method, or product) ready for improvement to yield predictable results; and/or (v) subject matter that some teaching, suggestion or motivation in the prior art would have led a POSITA to modify prior art references or to combine the prior art references' teachings. Using a reservation certificate to transfer critical data for granting access in an access control system was commonly known at the time, as evidenced by the cited prior art. A POSITA would have understood that using a reservation certificate to determine whether to grant access to a secure access control system would improve the functionality and security of the system by providing all necessary information for granting access in a single certificate. A POSITA would have had a reasonable expectation of success in modifying or combining the prior art reference(s) to add or modify the reservation certificate because doing so would require only the use of well-known and well-understood computing and software components, the function and operation of which would be readily understood, and which could be implemented with no more than the exercise of ordinary skill.

It would have been obvious to a POSITA to modify or add an application to the access device in any one of the primary references listed in the combinations below. The claimed application is obvious because it is nothing more than (i) combinations of prior art elements according to known methods to yield predictable results; (ii) simple substitution of one known

element for another to obtain predictable results; (iii) use of a known technique to improve similar devices (methods, or products) in the same way; (iv) applying a known technique to a known device (method, or product) ready for improvement to yield predictable results; and/or (v) subject matter that some teaching, suggestion or motivation in the prior art would have led a POSITA to modify prior art references or to combine the prior art references' teachings. Using an application on an access device for granting access in an access control system was commonly known at the time, as evidenced by the cited prior art. A POSITA would have understood that using a software application on an access device would improve the functionality and usability of the system by providing a simple software interface to manage communications and data transmissions. A POSITA would have had a reasonable expectation of success in modifying or combining the prior art reference(s) to add or modify the reservation certificate because doing so would require only the use of well-known and well-understood computing and software components, the function and operation of which would be readily understood, and which could be implemented with no more than the exercise of ordinary skill.

It would have been obvious to a POSITA to modify or add using Bluetooth to communicate with the access device as claimed to any one of the primary references listed in the combinations below. Using Bluetooth to communicate is obvious because it is nothing more than (i) combinations of prior art elements according to known methods to yield predictable results; (ii) simple substitution of one known element for another to obtain predictable results; (iii) use of a known technique to improve similar devices (methods, or products) in the same way; (iv) applying a known technique to a known device (method, or product) ready for improvement to yield predictable results; and/or (v) subject matter that some teaching, suggestion or motivation in the prior art would have led a POSITA to modify prior art references or to combine the prior

art references' teachings. Using Bluetooth to communicate was common and well-known at the time, as evidenced by the cited prior art. A POSITA would have understood that using Bluetooth to transmit and receive data necessary to grant access to a secure access control system would improve the functionality and security of the system by providing a simple, generic protocol that developers and users alike would have been familiar with. A POSITA would have had a reasonable expectation of success in modifying or combining the prior art reference(s) to add or modify using Bluetooth to communicate because doing so would require only the use of well-known and well-understood computing and software components, the function and operation of which would be readily understood, and which could be implemented with no more than the exercise of ordinary skill.

It would have been obvious to a POSITA to modify or add encryption and decryption, as claimed, to any one of the primary references listed in the combinations below. Encryption and decryption in the access control space are obvious because they are nothing more than (i) combinations of prior art elements according to known methods to yield predictable results; (ii) simple substitution of one known element for another to obtain predictable results; (iii) use of a known technique to improve similar devices (methods, or products) in the same way; (iv) applying a known technique to a known device (method, or product) ready for improvement to yield predictable results; and/or (v) subject matter that some teaching, suggestion or motivation in the prior art would have led a POSITA to modify prior art references or to combine the prior art references' teachings. Various encryption and decryption techniques were commonly known at the time, as evidenced by the cited prior art. A POSITA would have understood that implementing these encryption and decryption techniques would improve the functionality and security of the system by providing enhanced security by avoiding unauthorized interceptions

and ensuring the privacy of transmitted messages. A POSITA would have had a reasonable expectation of success in modifying or combining the prior art reference(s) to add or modify encryption and decryption because doing so would require only the use of well-known and well-understood computing and software components, the function and operation of which would be readily understood, and which could be implemented with no more than the exercise of ordinary skill. Indeed, public and private key encryption methods were well-known methods of encrypting communications between two devices and a POSITA would have known how to implement these common-place encryption and decryption methods.

It would have been obvious to a POSITA to modify or add a communication setting corresponding to an access device including a communication protocol as claimed to any one of the primary references listed in the combinations below. The claimed communication setting including a communication protocol is obvious because it is nothing more than (i) combinations of prior art elements according to known methods to yield predictable results; (ii) simple substitution of one known element for another to obtain predictable results; (iii) use of a known technique to improve similar devices (methods, or products) in the same way; (iv) applying a known technique to a known device (method, or product) ready for improvement to yield predictable results; and/or (v) subject matter that some teaching, suggestion or motivation in the prior art would have led a POSITA to modify prior art references or to combine the prior art references' teachings. Communication settings, including communication protocols, were commonly used and well-known at the time, as evidenced by the cited prior art. The '474 patent provides examples of communication settings "such as the network SSID, passcodes, IP addresses, Bluetooth ID, etc." ('474 patent, 4:65-66)—all of which are generic, commonly used identifiers for a communication device and were communicated using particular communication

protocols (e.g., cellular, Bluetooth, Wi-Fi). A POSITA would have understood that implementing a communication setting to identify the access device would improve the function and security of the system by ensuring the appropriate access device is receiving the request for access. A POSITA would have had a reasonable expectation of success in modifying or combining the prior art reference(s) to add or modify a communication setting including a communication protocol because doing so would require only the use of well-known and well-understood computing and software components, the function and operation of which would be readily understood, and which could be implemented with no more than the exercise of ordinary skill.

It would have been obvious to a POSITA to modify or add that the communication module does not advertise that the communication module is present as claimed to any one of the primary references listed in the combinations below. Having a communication module not advertise itself, for example in a non-discoverable mode, is obvious because it is nothing more than (i) combinations of prior art elements according to known methods to yield predictable results; (ii) simple substitution of one known element for another to obtain predictable results; (iii) use of a known technique to improve similar devices (methods, or products) in the same way; (iv) applying a known technique to a known device (method, or product) ready for improvement to yield predictable results; and/or (v) subject matter that some teaching, suggestion or motivation in the prior art would have led a POSITA to modify prior art references or to combine the prior art references' teachings. Having a module be non-discoverable is desirable because it minimizes the risk of security concerns present when a device is active and discoverable, including eavesdropping on data transferred between two devices and/or impersonating a device. A POSITA would have understood that having the communication

module not advertise itself would improve the functionality and security of the system by providing enhanced security by avoiding unauthorized eavesdropping or impersonations and ensuring the privacy of transmitted messages. A POSITA would have had a reasonable expectation of success in modifying or combining the prior art reference(s) to add or modify that the communication module does not advertise that the communication module is present as claimed because doing so would require only the use of well-known and well-understood computing and software components, the function and operation of which would be readily understood, and which could be implemented with no more than the exercise of ordinary skill.

It would have been obvious to a POSITA to modify or add that the communication module uses Wi-Fi to communicate with the access device as claimed to any one of the primary references listed in the combinations below. Having a communication module use Wi-Fi to communicate is obvious because it is nothing more than (i) combinations of prior art elements according to known methods to yield predictable results; (ii) simple substitution of one known element for another to obtain predictable results; (iii) use of a known technique to improve similar devices (methods, or products) in the same way; (iv) applying a known technique to a known device (method, or product) ready for improvement to yield predictable results; and/or (v) subject matter that some teaching, suggestion or motivation in the prior art would have led a POSITA to modify prior art references or to combine the prior art references' teachings. Using Wi-Fi to communicate was common and well-known at the time, as evidenced by the cited prior art. A POSITA would have understood that using Wi-Fi to transmit and receive data necessary to grant access to a secure access control system would improve the functionality and security of the system by providing a simple, generic protocol (e.g., IEEE 802.11) that developers and users alike would have been familiar with. A POSITA would have had a reasonable expectation of

success in modifying or combining the prior art reference(s) to add or modify that the communication module uses Wi-Fi to communicate with the access device as claimed because doing so would require only the use of well-known and well-understood computing and software components, the function and operation of which would be readily understood, and which could be implemented with no more than the exercise of ordinary skill.

The Asserted Claims of the '474 Patent are anticipated and/or rendered obvious by the following references and combinations, organized by primary reference. The following combinations are exemplary and not limiting.

Bröndrup Grounds

- Bröndrup (Ex. C-1) anticipates and/or renders obvious claims 1-36 alone or in combination with one or more of Knutsson (Ex. C-2), Woodard (Ex. C-4), Robertson (Ex. C-3), Nielsen (Ex. C-12), and Ullmann (Ex. C-13).
- To the extent Bröndrup does not expressly disclose the claimed reservation certificate, Bröndrup (Ex. C-1) alone or in the combinations above and further in combination with one or more of Woodard (Ex. C-4), Knutsson (Ex. C-2), Elfström (Ex. C-11), Kansala (Ex. C-7), Micali (Ex. C-9), Nielsen (Ex. C-12), Ullmann (Ex. C-13), Kung (Ex. C-14), Buckingham (Ex. C-15), and Barnes (Ex. C-16) renders this obvious.
- To the extent Bröndrup does not expressly disclose the claimed application, Bröndrup (Ex. C-1) alone or in the combinations above and further in combination with one or more of Knutsson (Ex. C-2) and Woodard (Ex. C-4) renders this obvious.
- To the extent Bröndrup does not expressly disclose using Bluetooth to communicate with the access device as claimed, Bröndrup (Ex. C-1) alone or in the combinations above and further in combination with one or more of Knutsson (Ex. C-2), Kansala (Ex. C-7),

Robertson (Ex. C-3), Nielsen (Ex. C-12), and Buckingham (Ex. C-15) renders this obvious.

- To the extent Bröndrup does not expressly disclose encryption and decryption, as claimed, Bröndrup (Ex. C-1) alone or in the combinations above and further in combination with one or more of Raghunath (Ex. C-10), Knutsson (Ex. C-2), Kansala (Ex. C-7), Libin (Ex. C-8), Micali (Ex. C-9), Nielsen (Ex. C-12), Ullmann (Ex. C-13), and Barnes (Ex. C-16) renders this obvious.
- To the extent Bröndrup does not expressly disclose the claimed communication setting including a communication protocol, Bröndrup (Ex. C-1) alone or in the combinations above and further in combination with one or more of Adams (Ex. C-5), Knutsson (Ex. C-2), Nielsen (Ex. C-12), and Ullmann (Ex. C-13) renders this obvious.
- To the extent Bröndrup does not expressly disclose that the communication module does not advertise that the communication module is present as claimed, Bröndrup (Ex. C-1) alone or in the combinations above and further in combination with Adams (Ex. C-5) renders this obvious.
- To the extent Bröndrup does not expressly disclose that the communication module uses Wi-Fi to communicate with the access device as claimed, Bröndrup (Ex. C-1) alone or in the combinations above and further in combination with Jain (Ex. C-6) and Buckingham (Ex. C-15) renders this obvious.

Knutsson Grounds

- Knutsson (Ex. C-2) anticipates and/or renders obvious claims 1-36 alone or in combination with one or more of Bröndrup (Ex. C-1), Woodard (Ex. C-4), Robertson (Ex. C-3), Nielsen (Ex. C-12), and Ullmann (Ex. C-13).

- To the extent Knutsson does not expressly disclose the claimed reservation certificate, Knutsson (Ex. C-2) alone or in the combinations above and further in combination with one or more of Bröndrup (Ex. C-1), Woodard (Ex. C-4), Elfström (Ex. C-11), Kansala (Ex. C-7), Micali (Ex. C-9), Nielsen (Ex. C-12), Ullmann (Ex. C-13), Kung (Ex. C-14), Buckingham (Ex. C-15), and Barnes (Ex. C-16) renders this obvious.
- To the extent Knutsson does not expressly disclose the claimed application, Knutsson (Ex. C-2) alone or in the combinations above and further in combination with Woodard (Ex. C-4) renders this obvious.
- To the extent Knutsson does not expressly disclose using Bluetooth to communicate with the access device as claimed, Knutsson (Ex. C-2) alone or in the combinations above and further in combination with one or more of Kansala (Ex. C-7), Robertson (Ex. C-3), Nielsen (Ex. C-12), and Buckingham (Ex. C-15) renders this obvious.
- To the extent Knutsson does not expressly disclose encryption and decryption, as claimed, Knutsson (Ex. C-2) alone or in the combinations above and further in combination with one or more of Raghunath (Ex. C-10), Elfström (Ex. C-11), Kansala (Ex. C-7), Micali (Ex. C-9), Nielsen (Ex. C-12), Ullmann (Ex. C-13), and Barnes (Ex. C-16) renders this obvious.
- To the extent Knutsson does not expressly disclose the claimed communication setting including a communication protocol, Knutsson (Ex. C-2) alone or in the combinations above and further in combination with Adams (Ex. C-5), Nielsen (Ex. C-12), and Ullmann (Ex. C-13) renders this obvious.
- To the extent Knutsson does not expressly disclose that the communication module does not advertise that the communication module is present as claimed, Knutsson (Ex. C-2)

alone or in the combinations above and further in combination with Adams (Ex. C-5) renders this obvious.

- To the extent Knutsson does not expressly disclose that the communication module uses Wi-Fi to communicate with the access device as claimed, Knutsson (Ex. C-2) alone or in the combinations above and further in combination with Jain (Ex. C-6) and Buckingham (Ex. C-15) renders this obvious.

Woodard Grounds

- Woodard (Ex. C-4) anticipates and/or renders obvious claims 1-36 alone or in combination with one or more of Knutsson (Ex. C-2), Bröndrup (Ex. C-1), Robertson (Ex. C-3), Nielsen (Ex. C-12), and Ullmann (Ex. C-13).
- To the extent Woodard does not expressly disclose the claimed reservation certificate, Woodard (Ex. C-4) alone or in the combinations above and further in combination with one or more of Bröndrup (Ex. C-1), Knutsson (Ex. C-2), Elfström (Ex. C-11), Kansala (Ex. C-7), Micali (Ex. C-9), Nielsen (Ex. C-12), Ullmann (Ex. C-13), Kung (Ex. C-14), Buckingham (Ex. C-15), and Barnes (Ex. C-16) renders this obvious.
- To the extent Woodard does not expressly disclose the claimed application, Woodard (Ex. C-4) alone or in the combinations above and further in combination with Knutsson (Ex. C-2) renders this obvious.
- To the extent Woodard does not expressly disclose using Bluetooth to communicate with the access device as claimed, Woodard (Ex. C-4) alone or in the combinations above and further in combination with one or more of Kansala (Ex. C-7), Robertson (Ex. C-3), Nielsen (Ex. C-12), and Buckingham (Ex. C-15) renders this obvious.

- To the extent Woodard does not expressly disclose encryption and decryption, as claimed, Woodard (Ex. C-4) alone or in the combinations above and further in combination with one or more of Raghunath (Ex. C-10), Knutsson (Ex. C-2), Kansala (Ex. C-7), Libin (Ex. C-8), Micali (Ex. C-9), Nielsen (Ex. C-12), Ullmann (Ex. C-13), and Barnes (Ex. C-16) renders this obvious.
- To the extent Woodard does not expressly disclose the claimed communication setting including a communication protocol, Woodard (Ex. C-4) alone or in the combinations above and further in combination with one or more of Adams (Ex. C-5), Knutsson (Ex. C-2), Nielsen (Ex. C-12), and Ullmann (Ex. C-13) renders this obvious.
- To the extent Woodard does not expressly disclose that the communication module does not advertise that the communication module is present as claimed, Woodard (Ex. C-4) alone or in the combinations above and further in combination with Adams (Ex. C-5) renders this obvious.
- To the extent Woodard does not expressly disclose that the communication module uses Wi-Fi to communicate with the access device as claimed, Woodard (Ex. C-4) alone or in the combinations above and further in combination with Jain (Ex. C-6) and Buckingham (Ex. C-15) renders this obvious.

Robertson Grounds

- Robertson (Ex. C-3) anticipates and/or renders obvious claims 1-36 alone or in combination with one or more of Knutsson (Ex. C-2), Woodard (Ex. C-4), Bröndrup (Ex. C-1), Nielsen (Ex. C-12), and Ullmann (Ex. C-13).
- To the extent Robertson does not expressly disclose the claimed reservation certificate, Robertson (Ex. C-3) alone or in the combinations above and further in combination with

one or more of Bröndrup (Ex. C-1), Woodard (Ex. C-4), Knutsson (Ex. C-2), Elfström (Ex. C-11), Kansala (Ex. C-7), Micali (Ex. C-9), Nielsen (Ex. C-12), Ullmann (Ex. C-13), Kung (Ex. C-14), Buckingham (Ex. C-15), and Barnes (Ex. C-16) renders this obvious.

- To the extent Robertson does not expressly disclose the claimed application, Robertson (Ex. C-3) alone or in the combinations above and further in combination with one or more of Knutsson (Ex. C-2) and Woodard (Ex. C-4) renders this obvious.
- To the extent Robertson does not expressly disclose using Bluetooth to communicate with the access device as claimed, Robertson (Ex. C-3) alone or in the combinations above and further in combination with one or more of Knutsson (Ex. C-2), Kansala (Ex. C-7), Nielsen (Ex. C-12), and Buckingham (Ex. C-15) renders this obvious.
- To the extent Robertson does not expressly disclose encryption and decryption, as claimed, Robertson (Ex. C-3) alone or in the combinations above and further in combination with one or more of Raghunath (Ex. C-10), Knutsson (Ex. C-2), Kansala (Ex. C-7), Libin (Ex. C-8), Micali (Ex. C-9), Nielsen (Ex. C-12), Ullmann (Ex. C-13), and Barnes (Ex. C-16) renders this obvious.
- To the extent Robertson does not expressly disclose the claimed communication setting including a communication protocol, Robertson (Ex. C-3) alone or in the combinations above and further in combination with one or more of Adams (Ex. C-5), Knutsson (Ex. C-2), Nielsen (Ex. C-12), and Ullmann (Ex. C-13) renders this obvious.
- To the extent Robertson does not expressly disclose that the communication module does not advertise that the communication module is present as claimed, Robertson (Ex. C-3)

alone or in the combinations above and further in combination with Adams (Ex. C-5) renders this obvious.

- To the extent Robertson does not expressly disclose that the communication module uses Wi-Fi to communicate with the access device as claimed, Robertson (Ex. C-3) alone or in the combinations above and further in combination with Jain (Ex. C-6) and Buckingham (Ex. C-15) renders this obvious.

Nielsen Grounds

- Nielsen (Ex. C-12) anticipates and/or renders obvious claims 1-36 alone or in combination with one or more of Knutsson (Ex. C-2), Woodard (Ex. C-4), Bröndrup (Ex. C-1), Robertson (Ex. C-3), and Ullmann (Ex. C-13).
- To the extent Nielsen does not expressly disclose the claimed reservation certificate, Nielsen (Ex. C-12) alone or in the combinations above and further in combination with one or more of Bröndrup (Ex. C-1), Woodard (Ex. C-4), Knutsson (Ex. C-2), Elfström (Ex. C-11), Kansala (Ex. C-7), Micali (Ex. C-9), Ullmann (Ex. C-13), Kung (Ex. C-14), Buckingham (Ex. C-15), and Barnes (Ex. C-16) renders this obvious.
- To the extent Nielsen does not expressly disclose the claimed application, Nielsen (Ex. C-12) alone or in the combinations above and further in combination with one or more of Knutsson (Ex. C-2) and Woodard (Ex. C-4) renders this obvious.
- To the extent Nielsen does not expressly disclose using Bluetooth to communicate with the access device as claimed, Nielsen (Ex. C-12) alone or in the combinations above and further in combination with one or more of Knutsson (Ex. C-2), Kansala (Ex. C-7), Robertson (Ex. C-3), and Buckingham (Ex. C-15) renders this obvious.

- To the extent Nielsen does not expressly disclose encryption and decryption, as claimed, Nielsen (Ex. C-12) alone or in the combinations above and further in combination with one or more of Raghunath (Ex. C-10), Knutsson (Ex. C-2), Kansala (Ex. C-7), Libin (Ex. C-8), Micali (Ex. C-9), Ullmann (Ex. C-13), and Barnes (Ex. C-16) renders this obvious.
- To the extent Nielsen does not expressly disclose the claimed communication setting including a communication protocol, Nielsen (Ex. C-12) alone or in the combinations above and further in combination with one or more of Adams (Ex. C-5), Knutsson (Ex. C-2), and Ullmann (Ex. C-13) renders this obvious.
- To the extent Nielsen does not expressly disclose that the communication module does not advertise that the communication module is present as claimed, Nielsen (Ex. C-12) alone or in the combinations above and further in combination with Adams (Ex. C-5) renders this obvious.
- To the extent Nielsen does not expressly disclose that the communication module uses Wi-Fi to communicate with the access device as claimed, Nielsen (Ex. C-12) alone or in the combinations above and further in combination with Jain (Ex. C-6) and Buckingham (Ex. C-15) renders this obvious.

Ullmann Grounds

- Ullmann (Ex. C-13) anticipates and/or renders obvious claims 1-36 alone or in combination with one or more of Knutsson (Ex. C-2), Woodard (Ex. C-4), Bröndrup (Ex. C-1), Robertson (Ex. C-3), and Nielsen (Ex. C-12).
- To the extent Ullmann does not expressly disclose the claimed reservation certificate, Ullmann (Ex. C-13) alone or in the combinations above and further in combination with one or more of Bröndrup (Ex. C-1), Woodard (Ex. C-4), Knutsson (Ex. C-2), Elfström

(Ex. C-11), Kansala (Ex. C-7), Micali (Ex. C-9), Nielsen (Ex. C-12), Kung (Ex. C-14), Buckingham (Ex. C-15), and Barnes (Ex. C-16) renders this obvious.

- To the extent Ullmann does not expressly disclose the claimed application, Ullmann (Ex. C-13) alone or in the combinations above and further in combination with one or more of Knutsson (Ex. C-2) and Woodard (Ex. C-4) renders this obvious.
- To the extent Ullmann does not expressly disclose using Bluetooth to communicate with the access device as claimed, Ullmann (Ex. C-13) alone or in the combinations above and further in combination with one or more of Knutsson (Ex. C-2), Kansala (Ex. C-7), Robertson (Ex. C-3), Nielsen (Ex. C-12), and Buckingham (Ex. C-15) renders this obvious.
- To the extent Ullmann does not expressly disclose encryption and decryption, as claimed, Ullmann (Ex. C-13) alone or in the combinations above and further in combination with one or more of Raghunath (Ex. C-10), Knutsson (Ex. C-2), Kansala (Ex. C-7), Libin (Ex. C-8), Micali (Ex. C-9), Nielsen (Ex. C-12), and Barnes (Ex. C-16) renders this obvious.
- To the extent Ullmann does not expressly disclose the claimed communication setting including a communication protocol, Ullmann (Ex. C-13) alone or in the combinations above and further in combination with one or more of Adams (Ex. C-5), Knutsson (Ex. C-2), and Nielsen (Ex. C-12) renders this obvious.
- To the extent Ullmann does not expressly disclose that the communication module does not advertise that the communication module is present as claimed, Ullmann (Ex. C-13) alone or in the combinations above and further in combination with Adams (Ex. C-5) renders this obvious.

- To the extent Ullmann does not expressly disclose that the communication module uses Wi-Fi to communicate with the access device as claimed, Ullmann (Ex. C-13) alone or in the combinations above and further in combination with Jain (Ex. C-6) and Buckingham (Ex. C-15) renders this obvious.

V. CLAIM CHARTS PURSUANT TO P.R. 3-3(C)

The attached claim charts (Exhibits A-1–A-17, B-1–B-16, C-1–C-18) are based, in whole or in part, on Plaintiff’s asserted theories of infringement in this case, to the extent discernible from Plaintiff’s Disclosure of Asserted Claims and Infringement Contentions. As an initial matter, all portions of each prior art reference cited in each of the attached claim charts are relied upon to support the disclosure of each patent claim limitation, as all portions provide general support. Representative descriptions and supporting citations are nevertheless provided but are merely exemplary; they do not necessarily reflect every instance where a particular claim term or claim limitation may be disclosed in or taught by the prior art reference. References to figures or drawings refer to the figures/drawings themselves, as well as to any accompanying text or text necessary to understand the figures or drawings. References to text refer to the text itself, as well as the accompanying figures or drawings that accompany the text. Defendants reserve the right to rely on additional, or different, portions of the prior art references, other publications, and expert testimony to establish what these references would have taught one of ordinary skill in the art, or in what manner they would have motivated a particular combination of references. Moreover, in certain instances, representative documents for certain prior art systems are cited, but, again, are merely exemplary; they do not necessarily reflect or include every document relating to the prior art system that exists and that discloses or teaches a particular claim term or claim limitation. Defendants reserve the right to rely on any and all documents that describe or relate to prior art systems, including relying on the system itself. Defendants also reserve the

right to rely on the testimony of the authors, named inventors, or anyone else with knowledge of the prior art references and systems identified herein, as well as expert testimony regarding any such references or systems.

VI. INVALIDITY CONTENTIONS UNDER 35 U.S.C. § 112 PURSUANT TO P.R. 3-3(D)

Certain of the Asserted Claims are invalid for failing to satisfy the written description and/or enablement requirements of 35 U.S.C. § 112 ¶ 1. Defendants may present these arguments simultaneously or alternatively to their arguments that the Asserted Claims are invalid under 35 U.S.C. §§ 102 and 103. Defendants may also present these arguments in the alternative to any arguments Defendants present in its petitions for IPR of certain of the Asserted Claims (Exs. E, F, G) or may present in instituted IPR as to such claims (together, “Defendants’ IPRs”). To the extent any contention by Defendants under § 112 might conflict with or otherwise be deemed inconsistent with a position taken by Defendants in Defendants’ IPRs, such contention is made in the alternative to the position taken by Defendants in Defendants’ IPRs. These contentions are not, and should not be construed as, an admission by Defendants that any Asserted Claim is not sufficiently definite for IPR or any other adjudication under §§ 102 or 103.

Defendants’ investigation of the Asserted Patents is ongoing, and Defendants reserve the right to amend or supplement these disclosures based on further investigation and in a manner consistent with the Federal Rules of Civil Procedure, the Local Patent Rules for the Eastern District of Texas, and the Docket Control Order, or otherwise in accordance with any order or direction of this Court or agreement of the parties. Defendants also reserve the right to supplement, modify or otherwise amend these grounds for invalidity under 35 U.S.C. § 112 based on the Court’s claim construction rulings or opinions or the parties’ positions or arguments taken in connection with the claim construction process. Defendants’ Invalidity Contentions

under 35 U.S.C. § 112 may depend, in part, on the Judge's claim construction, as well as Liberty's alleged scope of the asserted claims of the Asserted Patents. Consequently, Defendants only identify the issues under 35 U.S.C. § 112 of which it is presently aware.

A. Lack of Written Description

The Asserted Claims are invalid for failing to satisfy the written description requirement of 35 U.S.C. § 112 ¶ 1. “[A]lthough written description and enablement often rise and fall together, requiring a written description of the invention plays a vital role in curtailing claims that do not require undue experimentation to make and use, and thus satisfy enablement, but that have not been invented, and thus cannot be described.” *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1352 (Fed. Cir. 2010). Claims are invalid for failing to satisfy the written description requirement when the patent's specification does not sufficiently describe the claimed invention to show “that the inventor actually invented the invention claimed,” that is, “had possession of the claimed subject matter as of the filing date” of the application. *Id.* at 1351.

The Asserted Claims in the Asserted Patents fail to provide an adequate written description to show that the claims describe what was actually invented for at least the below-listed limitations:

'205 Claims 1 and 13⁵

- “wherein . . . the processor is configured to compare the interval of the reservation . . . to a current time accessible to the processor”
- “wherein . . . the processor is configured to . . . determine the current time is within the interval of the reservation”

'747 Claims 1 and 13⁶

⁵ Independent claim 13 of the '205 Patent contains similar limitations, but involves a method claim rather than a device claim.

⁶ Independent claim 13 of the '747 Patent contains similar limitations.

- “transmit, via the network, from the reservation server to a second device distinct from the first device, the reservation certificate and a communication setting corresponding to the access device”
- “wherein the access device receives the reservation certificate from the application based on use by the application of the communication setting,”

'474 Claims 1 and 15⁷

- “the application [on a portable terminal] activates the door lock . . . when the application determines the reservation certificate is current”
- “wherein the application activates the door lock by communicating with the access device via a second communication protocol that is different from the first communication protocol, based on use by the application of the communication setting,”
- “wherein the application compares the interval of the reservation to a current time accessible to the application to determine if the reservation certificate is current”

'474 Claims 8 and 26⁸

- “wherein the processor receives the reservation certificate from the application based on use by the application of the communications setting”
- “wherein the processor compares the interval of the reservation to a current time accessible to the processor to determine if the reservation certificate is current”
- “wherein the processor activates the door lock when the processor determines that the reservation certificate is current”

'474 Claims 16 and 27

- “wherein the first communication protocol comprises a cellular protocol”

'474 Claims 17 and 28

- “wherein the first communication protocol comprises a wireless LAN protocol”

'474 Claims 18, 22, 29, and 33

- “wherein the wireless LAN protocol comprises Wi-Fi”

⁷ Independent claim 15 of the '474 Patent contains similar limitations.

⁸ Independent claim 26 of the '474 Patent contains similar limitations.

'474 Claims 21 and 32

- “wherein the second communication protocol comprises a wireless LAN protocol”

B. Lack of Enablement

The Asserted Claims are invalid for failing to satisfy the enablement requirement of 35 U.S.C. § 112 ¶ 1. A claim is not enabled if a POSITA could not practice the claimed invention without “undue experimentation.” *See, e.g., Vasudevan Software, Inc. v. MicroStrategy, Inc.*, 782 F.3d 671, 684 (Fed. Cir. 2015) (citing *In re Wands*, 858 F.2d 731, 737 (Fed. Cir. 1988)). Courts may consider a non-exhaustive list of factors—referred to as the Wands factors—to determine whether the amount of experimentation needed to practice the claims is “undue.” *Id.* These factors include “(1) the quantity of experimentation necessary, (2) the amount of direction or guidance presented, (3) the presence or absence of working examples, (4) the nature of the invention, (5) the state of the prior art, (6) the relative skill of those in the art, (7) the predictability or unpredictability of the art, and (8) the breadth of the claims.” *Wands*, 858 F.2d at 737 (citing *In re Forman*, 230 U.S.P.Q. 546, 547 (B.P.A.I. 1986)). A specification must also enable the full scope of a claim in order to satisfy 35 U.S.C. § 112 ¶ 1. *See Liebel-Flarsheim Co. v. Medrad, Inc.*, 481 F.3d 1371, 1378–79 (Fed. Cir. 2007).

The Asserted Claims in the Asserted Patents fail to enable a POSITA to practice the claimed invention without undue experimentation for at least the below-listed limitations:

'205 Claims 1 and 13⁹

- “wherein . . . the processor is configured to compare the interval of the reservation . . . to a current time accessible to the processor”

⁹ Independent claim 13 of the '205 Patent contains similar limitations, but involves a method claim rather than a device claim.

- “wherein . . . the processor is configured to . . . determine the current time is within the interval of the reservation”

'747 Claims 1 and 13¹⁰

- “transmit, via the network, from the reservation server to a second device distinct from the first device, the reservation certificate and a communication setting corresponding to the access device”
- “wherein the access device receives the reservation certificate from the application based on use by the application of the communication setting,”

'474 Claims 1 and 15¹¹

- “the application [on a portable terminal] activates the door lock . . . when the application determines the reservation certificate is current”
- “wherein the application activates the door lock by communicating with the access device via a second communication protocol that is different from the first communication protocol, based on use by the application of the communication setting,”
- “wherein the application compares the interval of the reservation to a current time accessible to the application to determine if the reservation certificate is current”

'474 Claims 8 and 26¹²

- “wherein the processor receives the reservation certificate from the application based on use by the application of the communications setting”
- “wherein he processor compares the interval of the reservation to a current time accessible to the processor to determine if the reservation certificate is current”
- “wherein the processor activates the door lock when the processor determines that the reservation certificate is current”

'474 Claims 16 and 27

- “wherein the first communication protocol comprises a cellular protocol”

'474 Claims 17 and 28

¹⁰ Independent claim 13 of the '747 Patent contains similar limitations.

¹¹ Independent claim 15 of the '474 Patent contains similar limitations.

¹² Independent claim 26 of the '474 Patent contains similar limitations.

- “wherein the first communication protocol comprises a wireless LAN protocol”

’474 Claims 18, 22, 29, and 33

- “wherein the wireless LAN protocol comprises Wi-Fi”

’474 Claims 21 and 32

- “wherein the second communication protocol comprises a wireless LAN protocol”

VII. SUBJECT MATTER ELIGIBILITY CONTENTIONS

Defendants contend that the Asserted Claims are invalid or incapable of being infringed because they are directed to ineligible subject matter under 35 U.S.C. § 101. Pursuant to the Court’s Docket Control Order, the Local Patent Rules, and the Court’s Standing Order Regarding Subject Matter Eligibility Contentions, the bases for Defendants’ Subject Matter Eligibility Contentions are set forth in the charts attached hereto as **Exhibit D**.

Dated: July 13, 2023

Respectfully submitted,

/s/Lionel M. Lavenue

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CERTIFICATE OF SERVICE

I hereby certify that on July 13, 2023 a true and correct copy of the foregoing was served via electronic mail on all counsel of record.

/s/Lionel M. Lavenue

Lionel M. Lavenue