IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
MIDLAND-ODESSA DIVISION

CHARGELOGIC LLC, Plaintiff, v. TESLA, INC., Defendant.	Case No. 7:26-cv-00100-DC-DTG **JURY TRIAL DEMANDED**

DEFENDANT TESLA, INC.'S AMENDED PRELIMINARY INVALIDITY CONTENTIONS

ChargeLogic LLC - **Ex. 2036**
IPR2026-00381
Tesla Inc. v. ChargeLogic LLC

TABLE OF CONTENTS

Page

I. INTRODUCTION 1

A. Priority Date 2

B. Claim Construction 4

C. Ongoing Discovery and Supplementation 5

D. Prior Art Identification and Citations Thereto 8

E. No Patentable Weight 9

II. INVALIDITY UNDER 35 U.S.C. §§ 102 AND 103 9

A. State of the Art 11

1. U.S. Patent No. 10,090,567 11

2. U.S. Patent Nos. 11,258,107 & 11,721,844 12

3. U.S. Patent No. 11,508,996 12

4. U.S. Patent No. 11,909,010 12

5. U.S. Patent No. 11,909,011 13

B. Identification of Prior Art 13

1. U.S. Patent No. 10,090,567 16

2. U.S. Patent Nos. 11,258,107 & 11,721,844 19

3. U.S. Patent No. 11,508,996 23

4. U.S. Patent No. 11,909,010 26

5. U.S. Patent No. 11,909,011 28

C. Motivations to Combine Prior Art 31

1. U.S. Patent No. 10,090,567 – Exemplary Motivations to Combine 34

2. U.S. Patent Nos. 11,258,107 & 11,721,844 – Exemplary Motivations to Combine 44

3. U.S. Patent No. 11,508,996 – Exemplary Motivations to Combine 51

4. U.S. Patent No. 11,909,010 – Exemplary Motivations to Combine 53

5. U.S. Patent No. 11,909,011 – Exemplary Motivations to Combine 59

III. INVALIDITY UNDER 35 U.S.C. § 112 ¶ 1 62

1. U.S. Patent No. 10,090,567 64

2. U.S. Patent Nos. 11,258,107 & 11,721,844 65

3. U.S. Patent No. 11,508,996 67

4. U.S. Patent No. 11,909,010 68

5. U.S. Patent No. 11,909,011 69
IV. INVALIDITY UNDER 35 U.S.C. § 101 70
A. U.S. Patent No. 10,090,567 71
B. U.S. Patent Nos. 11,258,107 & 11,721,844 73
C. U.S. Patent No. 11,508,996 74
D. U.S. Patent No. 11,909,010 76
E. U.S. Patent No. 11,909,011 77
V. ACCOMPANYING PRODUCTION 79

Pursuant to the Court's Standing Order Governing Patent Proceedings, entered August 2, 2022 (the "Standing Order"), Defendant Tesla, Inc. ("Defendant" or "Tesla") provides these Amended Preliminary Invalidity Contentions ("Invalidity Contentions").

I. INTRODUCTION

On August 3, 2026, ChargeLogic LLC ("ChargeLogic") served its Preliminary Infringement Contentions ("Infringement Contentions") and asserted the following claims:

- U.S. Patent No. 10,090,567 ("'567 patent"): claims 8–13;
- U.S. Patent No. 11,258,107 ("'107 patent"): claims 6–8, 10, 12, and 14;
- U.S. Patent No. 11,508,996 ("'996 patent"): claim 15;
- U.S. Patent No. 11,721,844 ("'844 patent"): claims 1–5, 7–10, and 12–13;
- U.S. Patent No. 11,909,010 ("'010 patent"): claims 1–20; and
- U.S. Patent No. 11,909,011 ("'011 patent"): claims 1–8, 10–12, and 19

(collectively, the "Asserted Patents" and the "Asserted Claims"). Defendant contends that certain of the Asserted Claims are ineligible subject matter under 35 U.S.C. § 101, and that each of the Asserted Claims is invalid under at least 35 U.S.C. §§ 102, 103, and/or 112 ¶ 1.

These Invalidity Contentions address the claims identified in ChargeLogic's Infringement Contentions.[1] Defendant reserves the right to modify, amend, or supplement these Invalidity Contentions to the extent the Court permits ChargeLogic to amend, supplement, or otherwise modify its Infringement Contentions, including by modifying the claims asserted, and to the full

[1] Because of the discrepancy between the claims asserted as listed in the cover pleading of ChargeLogic's Infringement Contentions and the claims that were charted in the accompanying exhibits, Defendant Tesla confirmed with ChargeLogic that ChargeLogic is asserting the claims as charted in the accompanying exhibits and as Tesla has listed above. *See* September 16, 2026 Email from S. Seigel.

extent permitted by the Standing Order, any scheduling order the Court enters, the Federal Rules of Civil Procedure, and the Local Rules of this Court.

Under the Standing Order, leave of Court is required to amend invalidity contentions only after the deadline for final invalidity contentions, and the parties remain obligated to amend their contentions if new information is identified after the initial contentions are served. Standing Order, Ex. A. Defendant has undertaken reasonable efforts to prepare these Invalidity Contentions and will amend or supplement them as new information, including ChargeLogic's claim construction positions and its document production, is identified, and in accordance with any scheduling order the Court enters.

Further, ChargeLogic's Infringement Contentions do not identify, for each limitation of each Asserted Claim, where and how the accused products meet that limitation; in many instances they reproduce the claim language and cite documents without explanation or cite no evidence for a limitation. That lack of specificity limits Defendant's ability to understand, for purposes of preparing these Invalidity Contentions, what ChargeLogic alleges to be the scope of the Asserted Claims. Defendant reserves the right to amend these Invalidity Contentions if and when ChargeLogic provides proper infringement contentions as to each Asserted Claim.

A. Priority Date

These Invalidity Contentions are based on the earliest priority dates ChargeLogic asserts in its Infringement Contentions, reproduced below, without conceding that any Asserted Claim is entitled to that date:

Asserted Patent	ChargeLogic's Asserted Priority Date
'567 patent	August 17, 2008
'107 patent	August 17, 2008
'996 patent	August 17, 2008

’844 patent	August 17, 2008
’010 patent	August 17, 2008
’011 patent	August 17, 2008

Nothing in these Invalidity Contentions shall be understood as an agreement that any Asserted Patent is entitled to claim priority to the dates identified by ChargeLogic, or to any continuation-in-part, provisional, or foreign priority document. Defendant reserves the right to amend these Invalidity Contentions and identify additional prior art references if ChargeLogic is permitted by the Court to later assert an earlier priority date or to later produce documents purporting to evidence earlier conception and reduction to practice.

Any reference to an “asserted priority date” in these Invalidity Contentions refers to the priority dates identified in ChargeLogic’s Infringement Contentions. Reference to a “priority date” or an “asserted priority date” should not be construed to mean that Defendant agrees that any of the Asserted Patents are in fact entitled to such priority date, or that ChargeLogic has provided proper notice as to its contentions for a priority date.[2] To the extent ChargeLogic alleges that any prior art relied on in these Invalidity Contentions does not actually qualify as prior art to an Asserted Patent, Defendant reserves the right to rebut those allegations (*e.g.*, by demonstrating an earlier critical date for the challenged prior art and/or a later priority date for a particular Asserted Patent and/or Asserted Claim).[3] Likewise, to the extent ChargeLogic successfully establishes an invention date before any of the prior art references relied on by Defendant, then those references

[2] Defendant reserves the right to rely on additional documents, evidence, and expert testimony, including, without limitation, the documents cited in ChargeLogic’s Infringement Contentions, in the event that ChargeLogic fails to establish that any Asserted Claim of any Asserted Patent is entitled to its Asserted Priority Date.

[3] Defendant reserves the right to rely on additional documents and evidence to rebut any efforts by ChargeLogic to allege any reference was not publicly available or otherwise available as prior art.

serve as evidence of secondary considerations of obviousness, particularly contemporaneous invention by others; Defendant does not concede that any such reference is not prior art.

B. Claim Construction

Defendant's Invalidity Contentions are based on (1) Defendant's present understanding of the Asserted Claims, and (2) the claim constructions ChargeLogic appears to be using based on the Infringement Contentions, all without regard to whether Defendant agrees with ChargeLogic's apparent or expressed claim constructions. Defendant reserves the right to supplement or otherwise amend these Invalidity Contentions in response to any court-ordered clarifications on claim constructions, any report from any expert witness for ChargeLogic regarding the scope of the claims, any briefing filed by ChargeLogic relating to the scope of the claims, and any position taken by ChargeLogic concerning claim scope, infringement, or invalidity.

Defendant takes no position on any matter of claim construction in these Invalidity Contentions. If Defendant's disclosures herein are consistent with any explicit, apparent, or implied claim constructions in ChargeLogic's Infringement Contentions, no inference is intended and no inference should be drawn that Defendant agrees with any of ChargeLogic's claim constructions. Any statement herein describing or tending to describe any claim element is provided solely for the purpose of understanding and/or applying the cited prior art. In addition, to the extent that these Invalidity Contentions rely on or otherwise embody a particular order in which the steps of method claims are performed, Defendant does not necessarily propose that the method claims must be limited to such order, although Defendant may later propose such an order.

Nothing herein should be read to suggest that Defendant agrees that any particular claim term is sufficiently enabled or supported by the written description to meet the requirements of 35 U.S.C. § 112 ¶ 1. Likewise, nothing herein should be read to suggest that Defendant agrees that the preamble of any claim is or is not limiting.

Because any positions taken in these disclosures are based on the claim scope apparently asserted by ChargeLogic in its Infringement Contentions, with which Defendant may disagree, Defendant may take positions with respect to claim construction issues that are inconsistent with, or even contradictory to, positions expressed or implied in these Invalidity Contentions. Defendant will propose its own constructions at the times set by the Standing Order and any scheduling order the Court enters, and those constructions will be consistent with the positions Defendant has taken before the Patent Trial and Appeal Board. The charts apply the claim scope ChargeLogic appears to assert without adopting it.

Prior art not included in these Invalidity Contentions, whether or not now known to Defendant, might become relevant depending on the claim constructions proposed by Defendant and/or the Court's claim construction rulings. Defendant reserves all rights to supplement or modify the positions and information in these Invalidity Contentions, including, without limitation, the prior art and grounds of invalidity set forth herein, after the Court has construed any term of the Asserted Claims.

C. Ongoing Discovery and Supplementation

Defendant bases these Invalidity Contentions on its current knowledge and understanding of the Asserted Patents, ChargeLogic's Infringement Contentions, and other facts and information available as of the date of these contentions. Defendant's investigation into prior art—including prior art identified in these disclosures, third-party prior art (including system art and related evidence), documents, and knowledgeable witnesses—is ongoing.[4] Furthermore, Defendant

[4] Defendant's current and future efforts include but are not limited to: serving subpoenas on prior artists and inventors regarding prior art, seeking additional information related to the references and systems disclosed in these Invalidity Contentions, and seeking additional information related to available prior art systems, as well as ChargeLogic's Infringement Contentions and the products accused of infringing therein. Aside from venue, no depositions have been taken as of this time,

(Cont'd on next page)

anticipates seeking and obtaining discovery, including third-party discovery, that further evidences and supports the invalidity of the Asserted Claims. Thus, Defendant expects to present additional information and evidence in support of its Invalidity Contentions, and to revise, amend, and/or supplement these Invalidity Contentions accordingly in a manner consistent with the Federal Rules of Civil Procedure and the Court's rules and applicable orders.

Defendant further reserves the right to rely on statements or admissions from those owing a duty of candor, such as named inventors, prosecution counsel, and others involved in the prosecution of the patent applications or related applications, concerning the scope of the prior art relevant to the Asserted Patents found in, *inter alia*, the following: the respective prosecution histories of the Asserted Patents and related patent applications; any deposition testimony of the named inventors; and the papers filed and any evidence submitted by ChargeLogic in connection with this litigation or any other litigation or invalidity proceeding involving the Asserted Patents.

Defendant reserves the right to modify and/or supplement these Invalidity Contentions with an explanation of why the Asserted Claims are invalid under 35 U.S.C. § 102(f)–(g) in the event Defendant obtains additional evidence that the named inventors did not invent (either alone or in conjunction with others) the subject matter claimed or that the claimed subject matter was invented by others. Should Defendant obtain such evidence, it will provide the name of the person(s) from whom and the circumstances under which the invention or any part of it was derived or the name of the person(s) that invented such subject matter and the circumstances of such invention.

Prior art not identified in this disclosure, whether known or not known to Defendant, may become relevant, including prior art concerning the state of the art at the time of invention, as well

---

including, without limitation, depositions of any inventors, authors, or entities listed on any references or systems identified in these Invalidity Contentions.

as simultaneous or near-simultaneous independent invention by others. For instance, Defendant currently is unaware of the extent, if any, to which ChargeLogic will contend that limitations of the Asserted Claims are not disclosed in the prior art identified by Defendant. To the extent that such an issue arises, Defendant reserves the right to identify other references that would disclose, practice, or render obvious the allegedly missing limitation(s) of the disclosed subject matter.

Defendant has petitioned for inter partes review of each Asserted Patent (IPR2026-00377 through IPR2026-00382). In those proceedings Defendant stipulated that, "if IPR is instituted in any of the IPRs," Defendant "will not advance against the claims challenged in any instituted IPR: (i) the specific grounds asserted in the instituted IPR(s); (ii) any ground that reasonably could have been raised in the instituted IPR(s) (i.e., any ground that reasonably could have been raised under §§ 102 or 103 on the basis of prior art patents or printed publications); or (iii) any other ground based on a combination of system art with any prior art reference asserted as the basis of a ground in the instituted IPR(s)." *E.g.*, IPR2026-00377, Ex. 1052 (July 16, 2026). By its terms the stipulation "shall only apply to asserted claims in the Parallel Litigation to the extent IPR is instituted in the IPR proceeding challenging those claims and is not later vacated, reversed, or otherwise withdrawn, including by rehearing or Director Review." *Id.* No institution decision has issued. These Invalidity Contentions are served before any institution decision and therefore include grounds based on prior art patents and printed publications. Within fourteen days of any decision instituting an IPR, Defendant will serve a notice identifying the grounds it withdraws under clauses (i) through (iii) of the stipulation as to the claims challenged in that IPR, and Defendant will proceed on its remaining grounds, including grounds based on prior-art systems, products, and public uses, alone or in combination with patents and printed publications not

asserted as the basis of a ground in the instituted IPR, and its contentions under 35 U.S.C. §§ 101 and 112 ¶ 1.

D. Prior Art Identification and Citations Thereto

In these Invalidity Contentions, Defendant identifies specific, exemplary portions of prior art references that disclose the elements of the Asserted Claims. While Defendant has identified exemplary prior art references for each element, these Invalidity Contentions do not necessarily identify every disclosure of the same element in each prior art reference. A person of ordinary skill in the art would read a prior art reference as a whole and in the context of other publications, literature, and general knowledge in the field and would rely upon other information including other publications and general scientific or engineering knowledge. Defendant therefore reserves the right to rely upon other unidentified portions of the prior art references and on other publications and prior art products and expert testimony to provide context and to aid in the understanding and interpretation of the identified portions of the prior art.

Defendant also reserves the right to rely upon (1) other portions of the cited prior art references, other publications, prior art products, and the testimony of experts to establish that the alleged inventions would have been obvious to a person of ordinary skill in the art, including on the basis of modifying or combining certain cited references; (2) admissions relating to prior art in the Asserted Patents or related patents, or the prosecution histories of the Asserted Patents or related patents; (3) counterparts of any U.S. or foreign patents identified in Defendant's Invalidity Contentions; and (4) any prior art references, other publications, prior art products, and the testimony of experts to establish that the alleged inventions would have been obvious to a person of ordinary skill in the art used during any proceeding at the Patent Office involving the Asserted Patents. Where a prior art reference includes citations to other references, those other references are considered incorporated by reference for context.

The references discussed in the claim charts may disclose the elements of the Asserted Claims explicitly and/or inherently, and/or they may be relied upon to show the state of the art in the relevant time frame. The suggested obviousness combinations are provided in the alternative to Defendant's anticipation contentions and are not to be construed to suggest that any reference included in the combinations is not by itself anticipatory.

Where Defendant identifies in the claim charts a particular figure in a prior art reference, the identification should be understood to encompass the caption and description of the figure as well as any text relating to the figure in the specification and prosecution history in addition to the figure itself. Similarly, where an identified portion of text refers to a figure or other material, the identification should be understood to include the referenced figure or other material as well.

E. No Patentable Weight

Defendant reserves the right to argue that various portions of the Asserted Claims, such as an intended use or result, nonfunctional descriptive material, and certain preamble language, are entitled to no patentable weight. Mapping of a portion of an Asserted Claim to a prior art reference does not represent that such portion of the claim is entitled to patentable weight when comparing the claimed subject matter to the prior art.

II. INVALIDITY UNDER 35 U.S.C. §§ 102 AND 103

Defendant contends that the Asserted Claims are invalid as anticipated by the prior art under 35 U.S.C. § 102 and/or as obvious in view of the prior art, the knowledge of a person having ordinary skill in the art, and/or secondary factors of obviousness under 35 U.S.C. § 103.

The obviousness combinations of references provided in Defendant's invalidity claim charts under 35 U.S.C. § 103 are exemplary and are not intended to be exhaustive. In particular, Defendant is currently unaware of the extent, if any, to which ChargeLogic will contend that limitations of the Asserted Claims are not disclosed in the art identified by Defendant as

anticipatory. To the extent an issue arises with any such limitation, Defendant will identify other obviousness combinations and/or other references that would have made obvious the addition of the allegedly missing limitation to the disclosed device, system, or method of operation.

A patentee bears the burden of production with respect to evidence of secondary considerations of nonobviousness. *ZUP, LLC v. Nash Mfg., Inc.*, 896 F.3d 1365, 1373 (Fed. Cir. 2018). As of the date of these Invalidity Contentions, ChargeLogic has not identified any evidence of secondary considerations, nor does ChargeLogic offer any evidence or explanation to support its allegations. As shown in these Invalidity Contentions, other companies and individuals described, built, and/or patented the exact same concepts in the Asserted Patents before ChargeLogic ever did—often many years before. Even where others' invention(s) occurred around the same time as the Asserted Patents, such simultaneous invention demonstrates the obviousness of the Asserted Patents.

Potentially relevant evidence includes any prior art reference cited herein that was publicly known or available before or around the alleged inventions claimed in the Asserted Patents. This also includes any prior art asserted in these Invalidity Contentions that ChargeLogic is able to pre-date based on its asserted priority dates by proving, *inter alia*, corroborated conception and diligent reduction to practice.

Defendant reserves all rights to further respond to any secondary considerations of nonobviousness raised by ChargeLogic, including by updating, modifying, and/or adding to these Invalidity Contentions. Defendant is not aware of any unexpected results (none is mentioned in the Asserted Patents or their file histories), long-felt need, commercial success (or any nexus to any allegedly successful commercial embodiment), or awards for the alleged inventions of the Asserted Patents.

A. State of the Art

The subject matter of the Asserted Claims was well understood to those of skill in the art as of the respective priority dates of the Asserted Patents. To describe the state of the art at the time of the alleged inventions, in addition to the references listed on the face of the Asserted Patents and those references listed in Section II.B and charted in Exhibits A1–A24, B1–B12, C1–C8, D1–D11, and E1–E11, and Appendices A–E, Defendant may rely on at least the references listed below, any admitted prior art discussed in the Asserted Patents and file histories, and any references produced in Defendant's accompanying document production.

1. U.S. Patent No. 10,090,567

- US 5,367,558 ("Gillig")
- US 5,701,122 ("Canedy")
- US 6,181,996 B1 ("Chou")
- US 6,577,928 B2 ("Obradovich")
- US 7,084,859 B1 ("Pryor")
- US 7,596,391 B2 ("Himmelstein")
- US 7,764,932 B2 ("Rofougaran")
- US 2003/0230443 A1 ("Cramer")
- US 2010/0089669 A1 ("Taguchi")
- WO 2006/124130 A1 ("Hanssen")
- JP 2003-333706 A ("Hayashi")
- Berdichevsky et al., *The Tesla Roadster Battery System* (Tesla Motors, Aug. 16, 2006)
- Dhameja, *Electric Vehicle Battery Systems* (Newnes 2002)
- Nadal, *Development of a Hybrid Fuel Cell/Battery Powered Electric Vehicle*, Int. J. Hydrogen Energy (1996) ("Nadal")
- Installation Guide for Electric Vehicle Charging Equipment, Massachusetts Division of Energy Resources (2000)
- Chan, *The State of the Art of Electric and Hybrid Vehicles*, Proc. IEEE (2002)
- Specification of the Bluetooth System, v2.0 + EDR (2004)
- Willett Kempton & Jasna Tomić, *Vehicle-to-Grid Power Fundamentals: Calculating Capacity and Net Revenue*, 144 J. Power Sources 268 (2005)
- Martin Eberhard & Marc Tarpenning, Tesla Motors Inc., *The 21st Century Electric Car* (2006)
- W. Lee, Wireless and Cellular Telecommunications, 3d ed., McGraw-Hill (2006)
- Shuaib, *Co-existence of Zigbee and WLAN, A Performance Study*, IEEE (2006)
- J. Lee, *A Comparative Study of Wireless Protocols: Bluetooth, UWB, ZigBee, and Wi-Fi*, IECON (2007)

2. U.S. Patent Nos. 11,258,107 & 11,721,844

- Berdichevsky et al., *The Tesla Roadster Battery System* (Tesla Motors, Aug. 16, 2006)
- Dhameja, *Electric Vehicle Battery Systems* (Newnes 2002)
- Willett Kempton & Jasna Tomić, *Vehicle-to-Grid Power Fundamentals: Calculating Capacity and Net Revenue*, 144 J. Power Sources 268 (2005)
- Martin Eberhard & Marc Tarpenning, Tesla Motors Inc., *The 21st Century Electric Car* (2006)
- W. Lee, Wireless and Cellular Telecommunications, 3d ed., McGraw-Hill (2006)
- Shuaib, *Co-existence of Zigbee and WLAN, A Performance Study*, IEEE (2006)
- J. Lee, *A Comparative Study of Wireless Protocols: Bluetooth, UWB, ZigBee, and Wi-Fi*, IECON (2007)
- Specification of the Bluetooth System

3. U.S. Patent No. 11,508,996

- Soc'y of Auto. Eng'rs, Inc., SAE J1773, *Electric Vehicle Inductive Charge Coupling Recommended Practice* (1995)
- Soc'y of Auto. Eng'rs, Inc., SAE J1773, *SAE Electric Vehicle Inductively Coupled Charging* (rev. 1999)
- C.C. Chan, *The State of the Art of Electric and Hybrid Vehicles*, 90 Proc. IEEE 247 (2002)
- Sandeep Dhameja, *Electric Vehicle Battery Systems* (2002)
- James E. Francfort & Lee A. Slezak, *Electric and Hybrid Vehicle Testing* (Soc'y of Auto. Eng'rs, Inc., Tech. Paper Ser. No. 2002-01-1916, 2002)
- Willett Kempton & Jasna Tomić, *Vehicle-to-Grid Power Fundamentals: Calculating Capacity and Net Revenue*, 144 J. Power Sources 268 (2005)
- Martin Eberhard & Marc Tarpenning, Tesla Motors Inc., *The 21st Century Electric Car* (2006)

4. U.S. Patent No. 11,909,010

- U.S. Patent No. 5,406,188 ("Myslinski")
- Martin Eberhard & Marc Tarpenning, Tesla Motors Inc., *The 21st Century Electric Car* (2006)
- Gene Berdichevsky et al., Tesla Motors, Inc., *The Tesla Roadster Battery System* (2006)
- C.C. Chan, *The State of the Art of Electric and Hybrid Vehicles*, 90 Proc. IEEE 247 (2002)
- Sandeep Dhameja, *Electric Vehicle Battery Systems* (2002)
- James E. Francfort & Lee A. Slezak, *Electric and Hybrid Vehicle Testing* (Soc'y of Auto. Eng'rs, Inc., Tech. Paper Ser. No. 2002-01-1916, 2002)
- Willett Kempton & Jasna Tomić, *Vehicle-to-Grid Power Fundamentals: Calculating Capacity and Net Revenue*, 144 J. Power Sources 268 (2005)

- Alec N. Brooks, AC Propulsion, Inc., *Vehicle-to-Grid Demonstration Project: Grid Regulation Ancillary Service with a Battery Electric Vehicle* (Cal. Air Res. Bd., Contract No. 01-313, 2002)
- Thomas B. Gage, AC Propulsion, Inc., *Development and Evaluation of a Plug-in HEV with Vehicle-to-Grid Power Flow* (Cal. Air Res. Bd., Grant No. ICAT 01-2, 2003)

5. U.S. Patent No. 11,909,011

- U.S. Patent No. 5,406,188 ("Myslinski")
- Martin Eberhard & Marc Tarpenning, Tesla Motors Inc., *The 21st Century Electric Car* (2006)
- Gene Berdichevsky et al., Tesla Motors, Inc., *The Tesla Roadster Battery System* (2006)
- Willett Kempton & Jasna Tomić, *Vehicle-to-Grid Power Fundamentals: Calculating Capacity and Net Revenue*, 144 J. Power Sources 268 (2005)
- C.C. Chan, *The State of the Art of Electric and Hybrid Vehicles*, 90 Proc. IEEE 247 (2002)
- Sandeep Dhameja, *Electric Vehicle Battery Systems* (2002)
- William C.Y. Lee, *Wireless and Cellular Telecommunications* (3d ed. 2006)
- K. Shuaib et al., *Co-existence of Zigbee and WLAN, a Performance Study* (2006)
- Jin-Shyan Lee, Yu-Wei Su & Chung-Chou Shen, *A Comparative Study of Wireless Protocols: Bluetooth, UWB, ZigBee, and Wi-Fi*, 33 Ann. Conf. IEEE Indus. Elecs. Soc'y 46 (2007)
- Bluetooth SIG, Inc., *Specification of the Bluetooth System* (Version 2.0; EDR 2004)
- James E. Francfort & Lee A. Slezak, *Electric and Hybrid Vehicle Testing* (Soc'y of Auto. Eng'rs, Inc., Tech. Paper Ser. No. 2002-01-1916, 2002)

B. Identification of Prior Art

Defendant identifies the following prior art now known to Defendant that anticipates or renders obvious one or more of the Asserted Claims. Each of the following patents, publications, systems, and products is prior art under at least one or more of 35 U.S.C. § 102(a), (b), (e), (f), or (g) (pre-AIA), as applicable. Defendant's reliance on each prior art reference identified throughout these Invalidity Contentions includes the reference itself, anything incorporated by the reference, and any testimony by those with knowledge of the reference, such as named authors and inventors.

On information and belief, each listed document or item became prior art at least as early as the dates specified.

To the extent any limitation of any of the Asserted Claims is construed to have a similar meaning, or to encompass similar feature(s) and/or function(s), with any other claim limitation, and to the extent at least one claim chart in Exhibits A1–A24, B1–B12, C1–C8, D1–D11, and E1–E11 and Appendices A–E hereto identifies any prior art reference as disclosing or teaching such similarly construed claim limitation, such identified prior art reference and Defendant's contentions with respect to same are incorporated by reference. Priority dates identified for the prior art references are based on information currently available to Defendant, and Defendant will amend this disclosure to the extent additional information becomes available.

To the extent that they are prior art, Defendant reserves the right to rely upon (1) foreign counterparts of the U.S. Patents identified in Defendant's Invalidity Contentions, (2) U.S. counterparts of foreign patents and foreign patent applications identified in Defendant's Invalidity Contentions, and (3) U.S. and foreign patents and patent applications corresponding to articles and publications identified in Defendant's Invalidity Contentions.

The prior art identified below is exemplary; the claimed features are similarly described or disclosed in additional prior art. Thus, Defendant reserves the right to rely on other evidence of the prior art beyond the example references identified, including the prior art identified in Section II.A.

The primary references identified below, and as further described in Exhibits A1–A24, B1–B12, C1–C8, D1–D11, and E1–E11, each disclose, either expressly or inherently, every element of one or more of the Asserted Claims, as shown in the corresponding chart, and thereby anticipate those claims; to the extent any element is not disclosed, the claim would have been obvious for the

reasons stated in Section II.C and the charts. To the extent ChargeLogic contends that any primary reference does not anticipate the Asserted Claims, it would have been obvious to combine or modify the primary references with concepts from other prior art (including other primary references), as explained herein and in Appendices A–E.

In particular, for each limitation of the Asserted Claims that ChargeLogic contends is not met by a particular primary reference, Defendant contends that the limitation (and claim as a whole) is obvious based on a combination of that particular primary reference with (1) any other primary reference disclosing that limitation, (2) any admitted prior art, as explained in the background of each patent or discussed in the file history, (3) any reference identified in Appendices A–E as disclosing that limitation, and/or (4) the knowledge of a person of ordinary skill in the art and/or any of the references and concepts discussed herein regarding the relevant background and state of the art. The specific combinations of prior art that Defendant contends render the Asserted Claims obvious are readily determinable as described herein, which is the most efficient manner of identifying the combinations in light of the fact that ChargeLogic has asserted 56 claims across six patents. Defendant's obviousness grounds for each dependent claim incorporate the obviousness grounds for the claim(s) from which the dependent claim depends in addition to any obviousness grounds identified in the charts for the dependent claim.

Defendant does not yet have the benefit of ChargeLogic's positions on the prior art, including what (if any) elements it contends are missing in each prior art reference, whether ChargeLogic agrees that a reference is in fact prior art, and whether ChargeLogic agrees that a person of ordinary skill in the art would have been motivated to combine specific references. Defendant reserves the right to supplement these obviousness positions (including identifying

additional combinations and the associated reasons to combine) as discovery progresses, including expert discovery.

1. U.S. Patent No. 10,090,567

a. Prior Art Patents / Patent Publications

Patent / Publication No.	Country of Origin	Date of Issue / Publication
U.S. Patent No. 8,531,162 B2 ("Hafner")	United States	Filed June 16, 2008; issued September 10, 2013 (published as US 2009/0313098 A1 on December 17, 2009)
U.S. Patent No. 5,487,002 ("Diller")	United States	Filed December 31, 1992; issued January 23, 1996
U.S. Patent No. 7,956,570 B2 ("Lowenthal '570")	United States	Filed January 11, 2008; issued June 7, 2011 (published as U.S. Patent Application Publication No. 2009/0174365 on July 9, 2009)
U.S. Patent Application Publication No. 2010/0211340 A1 ("Lowenthal '340")	United States	Filed February 17, 2009; published August 19, 2010
U.S. Patent Application Publication No. 2008/0312782 A1 ("Berdichevsky")	United States	Filed June 15, 2007; published December 18, 2008
U.S. Patent No. 7,693,609 B2 ("Kressner")	United States	Filed September 5, 2007; issued April 6, 2010
U.S. Patent No. 5,467,006 ("Sims")	United States	Filed December 21, 1992; issued November 14, 1995
U.S. Patent No. 7,698,078 B2 ("Kelty '078")	United States	Filed July 18, 2007; issued April 13, 2010
U.S. Patent No. 5,548,200 ("Nor")	United States	Filed July 6, 1994; issued August 20, 1996
U.S. Patent No. 8,063,757 B2 ("Frey")	United States	Filed July 18, 2007; issued November 22, 2011
Japanese Unexamined Patent Application Publication No. 2006-74868 A ("Izuno")	Japan	Filed August 31, 2004; published March 16, 2006

U.S. Patent No. 9,853,488 B2 ("Fincham")	United States	Filed July 13, 2009; issued December 26, 2017 (published as US 2010/0017249 A1 on January 21, 2010); U.S. Provisional Patent Application No. 61/134,646 filed on July 11, 2008 ("Fincham Provisional")
U.S. Patent Application Publication No. 2008/0136371 A1 ("Sutardja")	United States	Filed December 4, 2007; published June 12, 2008
U.S. Patent Application Publication No. 2009/0021218 A1 ("Kelty '218")	United States	Filed July 18, 2007; published January 22, 2009
U.S. Patent Application Publication No. 2008/0039989 A1 ("Pollack")	United States	Filed August 9, 2007; published February 14, 2008
U.S. Patent No. 5,623,194 ("Boll")	United States (German priority)	Filed December 27, 1994; issued April 22, 1997
U.S. Patent Application Publication No. 2008/0203973 A1 ("Gale")	United States	Filed February 27, 2007; published August 28, 2008
U.S. Patent Application Publication No. 2010/0102776 A1 ("Uchida")	United States (Japanese priority)	PCT filed March 27, 2008 (§ 371 date September 22, 2009); published April 29, 2010
U.S. Patent Application Publication No. 2008/0067974 A1 ("Zhang")	United States (Chinese priority)	Filed September 18, 2007; published March 20, 2008
U.S. Patent No. 5,534,759 ("Evans")	United States	Filed May 19, 1995; issued July 9, 1996

b. Prior Art Systems

Defendant identifies the following systems—including constituent software, hardware, methods, and processes—as prior art that anticipate or render obvious the Asserted Claims of this patent. Each system (1) was known or used in this country before the alleged invention of the claimed subject matter of the patent-in-suit; (2) was in public use and/or on sale in this country more than one year before the filing date of the application for the patent-in-suit; and/or (3) was

invented and not abandoned, suppressed, or concealed prior to the alleged invention of the Asserted Patents. Discovery is ongoing and Defendant will supplement as discovery continues.

System / Product	Person(s) / Entities Involved	Date of Availability
Tesla Roadster	Tesla Motors, Inc. (now Tesla, Inc.)	Public use, sale, and offer for sale in the United States before August 17, 2008
AC Propulsion Vehicle-to-grid (V2G) System	AC Propulsion, Inc.; Alec Brooks; California Air Resources Board (sponsor)	Public demonstration and reporting in the United States in 2002 (Brooks, "Vehicle-to-Grid Demonstration Project," Dec. 10, 2002 report)
General Motors EV1 (including the WM7200 charger and Gen 2+ charger)	General Motors Corporation; Delco Electronics / GM Advanced Technology Vehicles; Hughes Electronics	Public use and sale in the United States beginning 1996–1998
General Motors WM7200 Inductive Charger	General Motors Corporation; Delco Electronics / GM Advanced Technology Vehicles; Hughes Electronics	Public use and sale in the United States beginning 1996–1998
Toyota RAV4-EV	Toyota Motor Corporation; Toyota Motor Sales, U.S.A., Inc.; Southern California Edison EV Technical Center (fleet)	Public use and sale in the United States 1997–2002

c. Prior Invention Under § 102(g)

For any of the prior art that Defendant has identified, Defendant may argue that the authors or inventors of that prior art invented the subject matter claimed in the '567 patent before the date

of invention ChargeLogic asserts for the ’567 patent. Discovery is ongoing and Defendant will supplement as discovery continues.

d. Obviousness and Secondary References

Defendant identifies each of the references listed above as primary references that render this patent anticipated, or at least obvious in view of the knowledge of a person of ordinary skill in the art. In addition, these primary references may be combined with each other or with the secondary references listed below to render this patent obvious under 35 U.S.C. § 103. One of ordinary skill in the art would be motivated to combine these references as explained in Section II.C:

- US 5,596,261 (“Suyama”)
- US 5,573,090 (“Ross”)
- US 2003/0228879 A1 (“Witkowski”)
- US 2009/0021213 A1 (“Johnson”)
- US 5,406,188 (“Myslinski”)
- US 5,963,140 (“Kawaguchi”)
- EP 1 220 350 B1 (“Ishii”)
- US 5,757,595 (“Ozawa”)

2. U.S. Patent Nos. 11,258,107 & 11,721,844

a. Prior Art Patents / Patent Publications

Patent / Publication No.	Country of Origin	Date of Issue / Publication
U.S. Patent Application Publication No. 2008/0312782 A1 (“Berdichevsky”)	United States	Filed June 15, 2007; published December 18, 2008

Patent / Publication No.	Country of Origin	Date of Issue / Publication
U.S. Patent Application Publication No. 2006/0028178 A1 ("Hobbs")	United States	Filed August 29, 2005 (continuation-in-part of an application filed June 24, 2003; claiming priority to a provisional application filed February 28, 2003); published February 9, 2006; issued as U.S. Patent No. 7,411,371 on August 12, 2008
U.S. Patent No. 7,698,078 ("Kelty '078")	United States	Filed July 18, 2007; published January 22, 2009 (U.S. Patent Application Publication No. 2009/0021385 A1); issued April 13, 2010
U.S. Patent Application Publication No. 2007/0200433 A1 ("Kelty '433")	United States	Filed February 14, 2006; published August 30, 2007; issued as U.S. Patent No. 7,752,145 on July 6, 2010
U.S. Patent Application Publication No. 2008/0136371 A1 ("Sutardja")	United States	Filed December 4, 2007 (claiming priority to provisional applications filed December 6, 2006 and February 27, 2007); published June 12, 2008; issued as U.S. Patent No. 8,664,915 on March 4, 2014
U.S. Patent No. 5,563,491 ("Tseng")	United States	Filed November 5, 1993; issued October 8, 1996

Patent / Publication No.	Country of Origin	Date of Issue / Publication
U.S. Patent No. 10,906,423 ("Bridges")	United States	U.S. Patent No. 10,906,423: filed March 26, 2019; published February 20, 2020 (U.S. Patent Application Publication No. 2020/0055418 A1); issued February 2, 2021; claiming priority through continuation applications to applications filed August 9–10, 2007 and to a provisional application filed August 10, 2006. Family publications: published February 14, 2008 (Nos. 2008/0040295, 2008/0040479, 2008/0040223) and February 28, 2008 (No. 2008/0052145)

b. Prior Art Systems

Defendant identifies the following systems—including constituent software, hardware, methods, and processes—as prior art that anticipate or render obvious the Asserted Claims of these patents. Each system (1) was known or used in this country before the alleged invention of the claimed subject matter of the patent-in-suit; (2) was in public use and/or on sale in this country more than one year before the filing date of the application for the patent-in-suit; and/or (3) was invented and not abandoned, suppressed, or concealed prior to the alleged invention of the Asserted Patents. Discovery is ongoing and Defendant will supplement as discovery continues.

System / Product	Person(s) / Entities Involved	Date of Availability
Tesla Roadster	Tesla Motors, Inc. (now Tesla, Inc.)	Public use, sale, and offer for sale in the United States before August 17, 2008
AC Propulsion Vehicle-to-grid (V2G) System	AC Propulsion, Inc.; Alec Brooks; California Air	Public demonstration and reporting in the United States in 2002

System / Product	Person(s) / Entities Involved	Date of Availability
	Resources Board (sponsor)	(Brooks, "Vehicle-to-Grid Demonstration Project," Dec. 10, 2002 report)
General Motors EV1 (including the WM7200 charger and Gen 2+ charger)	General Motors Corporation; Delco Electronics / GM Advanced Technology Vehicles; Hughes Electronics	Public use and sale in the United States beginning 1996–1998
General Motors WM7200 Inductive Charger	General Motors Corporation; Delco Electronics / GM Advanced Technology Vehicles; Hughes Electronics	Public use and sale in the United States beginning 1996–1998
Toyota RAV4-EV	Toyota Motor Corporation; Toyota Motor Sales, U.S.A., Inc.; Southern California Edison EV Technical Center (fleet)	Public use and sale in the United States 1997–2002

c. Prior Invention Under § 102(g)

For any of the prior art that Defendant has identified, Defendant may argue that the authors or inventors of that prior art invented the subject matter claimed in the '107 and '844 patents before the date of invention ChargeLogic asserts for the '107 and '844 patents. Discovery is ongoing and Defendant will supplement as discovery continues.

d. Obviousness and Secondary References

Defendant identifies each of the references listed above as primary references that render these patents anticipated, or at least obvious in view of the knowledge of a person of ordinary skill

in the art. In addition, these primary references may be combined with each other or with the secondary references listed below to render these patents obvious under 35 U.S.C. § 103. One of ordinary skill in the art would be motivated to combine these references as explained in Section II.C:

- U.S. Patent Application Publication No. 2003/0193405 A1 ("Hunt")
- Japanese Patent Application Publication No. JP 2000-004542 A ("Kuromame")
- U.S. Patent Application Publication No. 2007/0300183 A1 ("Anttila")
- U.S. Patent Application Publication No. 2008/0272933 A1 ("Cornwall")
- U.S. Patent No. 5,200,688 ("Patino")
- U.S. Patent Application Publication No. 2007/0096691 ("Duncan")
- U.S. Patent No. 6,697,617 ("Liebenow")
- U.S. Patent No. 6,697,953 ("Collins")
- U.S. Patent No. 6,856,251 ("Xsilogy")
- U.S. Patent No. 7,843,167 ("DeRome")

3. U.S. Patent No. 11,508,996

e. Prior Art Patents / Patent Publications / Non-Patent Publications

Patent / Publication No.	Country of Origin	Date of Issue / Publication
U.S. Pat. App. Pub. No. 2005/0113887 ("Bauhahn")	United States	Filed October 4, 2004; published May 26, 2005
U.S. Patent No. 7,402,978 ("BK Pryor")	United States	Filed June 30, 2006; issued July 22, 2008
U.S. Patent No. 5,654,621 ("Seelig")	United States	§ 102(e) Date August 16, 1995; issued August 5, 1997
U.S. Patent No. 5,461,298 ("Lara")	United States	Filed January 15, 1993; issued October 24, 1995
U.S. Patent No. 5,701,122 ("Canedy")	United States	Filed October 4, 1996; issued December 23, 1997
Japanese Patent App. Pub. No. 2006-74868 ("Izuno")	Japan	Filed August 31, 2004; published March 16, 2006

Japanese Patent App. Pub. No. H09-182212 ("Minoshima")	Japan	Filed December 25, 1995; published July 11, 1997
U.S. Patent No. 5,669,470 ("Ross 470")	United States	Filed May 5, 1994; issued September 23, 1997
U.S. Pat. No. 5,573,090 ("Ross 090")	United States	Filed May 5, 1994; issued November 12, 1996
U.S. Pat. No. 6,421,600 ("Ross 600")	United States	Filed May 30, 2000; issued July 16, 2002
U.S. Patent App. Pub. No. 2002/0105549 A1 ("Yokota")	United States	Filed February 5, 2001; published August 8, 2002
U.S. Patent No. 5,646,500 ("Wilson")	United States	Filed January 27, 1995; issued July 8, 1997
U.S. Pat. No. 5,498,948 ("Bruni")	United States	Filed October 14, 1994; issued March 12, 1996
U.S. Patent App. Pub. No. 2003/0230443 ("Cramer")	United States	Filed January 8, 2003; published December 18, 2003
U.S. Patent App. Pub. No. 2008/0221746 ("Plishner")	United States	Filed July 9, 2007; published September 11, 2008
WO 2007/037104 ("Oyobe")	WIPO	Filed August 31, 2006; published April 5, 2007
Soc'y of Auto. Eng'rs, Inc., SAE J1773, *SAE Electric Vehicle Inductively Coupled Charging* (rev. 1999)	Non-Patent Publication	Published November 1999

f. Prior Art Systems

Defendant identifies the following systems—including constituent software, hardware, methods, and processes—as prior art that anticipate or render obvious the Asserted Claims of this patent. Each system (1) was known or used in this country before the alleged invention of the claimed subject matter of the patent-in-suit; (2) was in public use and/or on sale in this country more than one year before the filing date of the application for the patent-in-suit; and/or (3) was invented and not abandoned, suppressed, or concealed prior to the alleged invention of the Asserted Patents. Discovery is ongoing and Defendant will supplement as discovery continues.

System / Product	Person(s) / Entities Involved	Date of Availability
Roadway Powered Electric Vehicle Project ("Shladover")	Systems Control Technology, Inc.; Daniel M. Empey; Gregory Wyess; Michael Vincent; Jon Garbarino; Robert Moore; Georginia J. Bailie; Jill V. Josselyn; Jeffrey Frenster; Constance R. Klein; Steven E. Shladover; Edward H. Lechner.	Public demonstration and published reports in the United States 1992–1994
General Motors WM7200 Inductive Charger	General Motors Corporation; Delco Electronics / GM Advanced Technology Vehicles; Hughes Electronics	Public use and sale in the United States beginning 1996–1998

g. Prior Invention Under § 102(g)

For any of the prior art that Defendant has identified, Defendant may argue that the authors or inventors of that prior art invented the subject matter claimed in the '996 patent before the date of invention ChargeLogic asserts for the '996 patent. Discovery is ongoing and Defendant will supplement as discovery continues.

h. Obviousness and Secondary References

Defendant identifies each of the references listed above as primary references that render this patent anticipated, or at least obvious in view of the knowledge of a person of ordinary skill in the art. In addition, these primary references may be combined with each other or with the secondary references listed below to render this patent obvious under 35 U.S.C. § 103. One of

ordinary skill in the art would be motivated to combine these references as explained in Section II.C:

- U.S. Patent No. 7,402,978 ("BK Pryor")
- U.S. Patent Application Publication No. 2005/0113887 ("Bauhahn")
- U.S. Patent No. 5,654,621 ("Seelig")
- U.S. Patent No. 5,461,298 ("Lara")
- U.S. Patent No. 5,701,122 ("Canedy")
- U.S. Patent Application Publication No. 2002/0105549 ("Yokota")
- U.S. Patent No. 5,646,500 ("Wilson")
- U.S. Patent No. 5,498,948 ("Bruni")
- U.S. Patent Application Publication No. 2003/0230443 ("Cramer")
- U.S. Patent Application Publication No. 2008/0221746 ("Plishner")
- WO 2007/037104 (citations are to the English translation published as U.S. Pat. App. Pub. No. 2009/0040068) ("Oyobe")

4. U.S. Patent No. 11,909,010

a. Prior Art Patents / Patent Publications

Patent / Publication No.	Country of Origin	Date of Issue / Publication
European Patent No. 1220350B1 ("Ishii")	Europe and Japan	Published March 15, 2001; issued December 6, 2006
Japanese Application Publication 2003-333706 ("Hayashi")	Japan	Filed May 10, 2002; published November 21, 2003
U.S. Patent No. 5,283,513 ("Fujita")	United States	Filed May 8, 1992; issued February 1, 1994
U.S. Patent No. 5,650,710 ("Hotta '710")	United States	Filed June 7, 1995; issued July 22, 1997
U.S. Patent No. 5,623,194 ("Boll")	United States	Filed December 27, 1994; issued April 22, 1997
U.S. Patent No. 5,723,971 ("Sakai")	United States	Filed July 19, 1996; issued March 3, 1998

Patent / Publication No.	Country of Origin	Date of Issue / Publication
U.S. Patent Pub. No. 2008/0136371 ("Sutardja")	United States	Filed December 4, 2007; Provisional filed February 27, 2007; published June 12, 2008
U.S. Patent No. 7,698,078 ("Kelty '078")	United States	Filed July 18, 2007; published January 22, 2009; issued April 13, 2010

b. Prior Art Systems

Defendant identifies the following systems—including constituent software, hardware, methods, and processes—as prior art that anticipate or render obvious the Asserted Claims of this patent. Each system (1) was known or used in this country before the alleged invention of the claimed subject matter of the patent-in-suit; (2) was in public use and/or on sale in this country more than one year before the filing date of the application for the patent-in-suit; and/or (3) was invented and not abandoned, suppressed, or concealed prior to the alleged invention of the Asserted Patents. Discovery is ongoing and Defendant will supplement as discovery continues.

System / Product	Person(s) / Entities Involved	Date of Availability
Toyota RAV4-EV	Toyota Motor Corporation; Toyota Motor Sales, U.S.A., Inc.; Southern California Edison EV Technical Center (fleet)	Public use and sale in the United States 1997–2002
General Motors EV1 and Magne Charge (including the WM7200 charger and Gen 2+ charger)	General Motors Corporation; Delco Electronics / GM Advanced Technology Vehicles; Hughes Electronics	Public use and sale in the United States beginning 1996–1998
AC Propulsion Vehicle-to-grid (V2G) System	AC Propulsion, Inc.; Alec Brooks; California Air	Public demonstration and reporting in the United States in 2002

System / Product	Person(s) / Entities Involved	Date of Availability
	Resources Board (sponsor)	(Brooks, "Vehicle-to-Grid Demonstration Project," Dec. 10, 2002 report)
Tesla Roadster	Tesla Motors, Inc. (now Tesla, Inc.)	Public use, sale, and offer for sale in the United States before August 17, 2008

c. Prior Invention Under § 102(g)

For any of the prior art that Defendant has identified, Defendant may argue that the authors or inventors of that prior art invented the subject matter claimed in the '010 patent before the date of invention ChargeLogic asserts for the '010 patent. Discovery is ongoing and Defendant will supplement as discovery continues.

d. Obviousness and Secondary References

Defendant identifies each of the references listed above as primary references that render this patent anticipated, or at least obvious in view of the knowledge of a person of ordinary skill in the art. In addition, these primary references may be combined with each other or with the secondary references listed below to render this patent obvious under 35 U.S.C. § 103. One of ordinary skill in the art would be motivated to combine these references as explained in Section II.C:

- U.S. Patent No. 5,757,595 ("Ozawa")
- U.S. Patent No. 5,548,200 ("Nor")
- U.S. Patent No. 5,596,261 ("Suyama")
- U.S. Patent No. 5,723,971 ("Sakai")

5. U.S. Patent No. 11,909,011

a. Prior Art Patents / Patent Publications

Patent / Publication No.	Country of Origin	Date of Issue / Publication
U.S. Patent No. 5,596,261 ("Suyama")	United States	Filed October 25, 1994; issued January 21, 1997
European Patent No. 1220350B1 ("Ishii")	Europe and Japan	Published March 15, 2001; issued December 6, 2006
Japanese Application Publication 2003-333706 ("Hayashi")	Japan	Filed May 10, 2002; published November 21, 2003
U.S. Patent No. 5,283,513 ("Fujita")	United States	Filed May 8, 1992; issued February 1, 1994
U.S. Patent No. 5,650,710 ("Hotta '710")	United States	Filed June 7, 1995; issued July 22, 1997
U.S. Patent No. 5,623,194 ("Boll")	United States	Filed December 27, 1994; issued April 22, 1997
U.S. Patent No. 5,723,971 ("Sakai")	United States	Filed July 19, 1996; issued March 3, 1998

b. Prior Art Systems

Defendant identifies the following systems—including constituent software, hardware, methods, and processes—as prior art that anticipate or render obvious the Asserted Claims of this patent. Each system (1) was known or used in this country before the alleged invention of the claimed subject matter of the patent-in-suit; (2) was in public use and/or on sale in this country more than one year before the filing date of the application for the patent-in-suit; and/or (3) was invented and not abandoned, suppressed, or concealed prior to the alleged invention of the Asserted Patents. Discovery is ongoing and Defendant will supplement as discovery continues.

System / Product	Person(s) / Entities Involved	Date of Availability
AC Propulsion Vehicle-to-grid (V2G) System	AC Propulsion, Inc.; Alec Brooks; California Air Resources Board (sponsor)	Public demonstration and reporting in the United States in 2002 (Brooks, "Vehicle-to-Grid Demonstration Project," Dec. 10, 2002 report)

System / Product	Person(s) / Entities Involved	Date of Availability
General Motors EV1 and Magne Charge (including the WM7200 charger and Gen 2+ charger)	General Motors Corporation; Delco Electronics / GM Advanced Technology Vehicles; Hughes Electronics	Public use and sale in the United States beginning 1996–1998
Toyota RAV4-EV	Toyota Motor Corporation; Toyota Motor Sales, U.S.A., Inc.; Southern California Edison EV Technical Center (fleet)	Public use and sale in the United States 1997–2002
Tesla Roadster	Tesla Motors, Inc. (now Tesla, Inc.)	Public use, sale, and offer for sale in the United States before August 17, 2008

c. Prior Invention Under § 102(g)

For any of the prior art that Defendant has identified, Defendant may argue that the authors or inventors of that prior art invented the subject matter claimed in the ’011 patent before the date of invention ChargeLogic asserts for the ’011 patent. Discovery is ongoing and Defendant will supplement as discovery continues.

d. Obviousness and Secondary References

Defendant identifies each of the references listed above as primary references that render this patent anticipated, or at least obvious in view of the knowledge of a person of ordinary skill in the art. In addition, these primary references may be combined with each other or with the secondary references listed below to render this patent obvious under 35 U.S.C. § 103. One of ordinary skill in the art would be motivated to combine these references as explained in Section II.C:

- U.S. Patent No. 5,283,513 ("Fujita")
- U.S. Patent No. 5,757,595 ("Ozawa")
- U.S. Patent No. 5,548,200 ("Nor")
- U.S. Patent No. 5,723,971 ("Sakai")

C. Motivations to Combine Prior Art

Defendant does not contend that any single, express motivation is required to combine the references disclosed in the attached charts; as set forth below and in the charts, there was a reason to make each combination, each combination would have produced predictable results, and each combination at most represents a known alternative to one of ordinary skill in the art. *See KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 414–18 (2007) (rejecting the Federal Circuit's "rigid" application of the teaching, suggestion, or motivation to combine test, instead espousing an "expansive and flexible" approach). Indeed, the Supreme Court held that a person of ordinary skill in the art is "a person of ordinary creativity, not an automaton" and "in many cases a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle." *Id.* at 420–21.

In view of *KSR*, the PTO issued a set of new Examination Guidelines. *See* Examination Guidelines for Determining Obviousness Under 35 U.S.C. § 103 in View of the Supreme Court Decision in *KSR International Co. v. Teleflex Inc.*, 72 Fed. Reg. 57,526 (Oct. 10, 2007). Those Guidelines identified various rationales for finding a claim obvious, including:

a) Combining prior art elements according to known methods to yield predictable results;

b) Simple substitution of one known element for another to obtain predictable results;

c) Use of known technique to improve similar devices (methods, or products) in the same way;

d) Applying a known technique to a known device (method, or product) ready for improvement to yield predictable results;

e) "Obvious to try"—choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success;

f) Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations would have been predictable to one of ordinary skill in the art;

g) Some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention.

Id. at 57,529.

In addition, the motivation to combine or modify prior art references is significantly stronger when, as here, the references seek to solve the same problem, come from the same field, and correspond well. *In re Inland Steel Co.*, 265 F.3d 1354, 1362 (Fed. Cir. 2001) (allowing two references to be combined as invalidating art under similar circumstances where the art "focus[ed] on the same problem . . . [,] c[a]me from the same field of art [and the] . . . identified problem found in the two references correspond[ed] well").

Defendant has identified several exemplary motivations and reasons to combine the various references cited herein, and those motivations would have been supported, in part, by a reasonable expectation of success. The various teachings, suggestions, and/or reasons to modify any of the references and/or to combine any two or more of the references in Exhibits A1–A24, B1–B12, C1–C8, D1–D11, and E1–E11 and Appendices A–E come from various sources, including the prior art (specific and as a whole), common knowledge, common sense, predictability, expectations, industry trends, design incentives or need, market demand or pressure, market forces, the nature of the problem faced, and/or the knowledge possessed by one of ordinary skill in the art. In addition, it would have been obvious to try combining the prior art references identified above.

The specific combinations on which Defendant presently relies are set out in the accompanying charts and Appendices. The general statements in this Section identify the reasons a person of ordinary skill in the art would have combined the charted references; they do not substitute for the charts. Combinations with a reference asserted as the basis of a ground in any of the petitions for *inter partes* review are asserted subject to the stipulation described in Section I.C, and Defendant will withdraw them to the extent clause (iii) of the stipulation applies to the claims challenged in the instituted IPR(s).

These exemplary combinations demonstrate that there were only a finite number of predictable solutions to known problems addressed by the Asserted Patents. Furthermore, known work in one field of endeavor prompted variations based on predictable design incentives and/or market forces either in the same field or a different one. The combination of features found in the prior art references identified in these contentions would have been obvious because the claimed combinations represent the known potential options, with each such option having a reasonable expectation of success. Additionally, one of ordinary skill in the art would have been motivated to create combinations identified in these contentions using: known methods to yield predictable results; known techniques in the same way; a simple substitution of one known, equivalent element for another to obtain predictable results; and/or teaching, suggestion, or motivation in the prior art generally. Also, market forces in the industry, and the desire to improve features and performance, would motivate the addition of features to systems as they become available, become less expensive, become more commonly used, provide better performance and reliability, reduce costs, or predictably achieve other clearly desirable results.

To the extent ChargeLogic alleges that any other claimed limitation or limitations are not disclosed in any primary reference, it would have been obvious to combine the teachings of the

reference with the background knowledge of a person of ordinary skill in the art and/or it would have been obvious to incorporate the missing limitation(s), including as disclosed in Exhibits A1–A24, B1–B12, C1–C8, D1–D11, and E1–E11, and Appendices A–E, into the primary reference for the reasons disclosed herein. For example, one of ordinary skill in the art would have found substantial motivation to combine one or more of the primary references with one or more of each other or the secondary references in order to disclose the alleged inventions recited in the Asserted Claims. Each of the references disclosed herein as invalidating an Asserted Patent was directed at the same or similar field of technology and the same or similar problem as that Asserted Patent. To the extent ChargeLogic alleges that any particular claim limitation is not disclosed or inherent in the charted references, it would have been obvious to combine the charted reference with one or more of the references identified herein for the particular claim limitations. Also, as Defendant is currently unaware of the extent, if any, to which ChargeLogic will contend that limitations of the Asserted Claims are not disclosed in the art identified herein as anticipatory, Defendant reserves the right to identify other references and combinations that may render an allegedly missing limitation obvious. In addition, if and to the extent that ChargeLogic challenges the relevance of any of these references with respect to particular limitations of the Asserted Claims of the Asserted Patents, Defendant reserves its right to identify further motivation to combine particular references with additional particularity.

1. U.S. Patent No. 10,090,567 – Exemplary Motivations to Combine

As explained above, a person of ordinary skill in the art would have been motivated to combine each primary reference (Exhibits A1–A24) with one or more of (1) any other primary reference, (2) any secondary reference listed in Appendix A, and (3) any reference identified in the subsections below on motivations to combine to arrive at the claimed invention. For each proposed combination, Defendant may rely on additional references in connection with

combinations to show the state of the art, general knowledge of a person of ordinary skill in the art at the time of the alleged invention, or additional motivations to make such combinations.

The following are exemplary motivations to combine:

a) Display Mounted in Vehicle to Display a Time or Battery Information

Some limitations of the Asserted Claims relate to a display that can display a time or various information about the vehicle battery, including:

- "a display coupled to the controller and adapted to display a time" ('567 patent, claim 8);
- "display is mounted in a console within the vehicle" ('567 patent, claim 9);
- "the controller is also adapted to display a level of charge of the battery on the display" ('567 patent, claim 12);
- "the controller is also adapted to display upon the display an amount of time for the battery to be fully charged based upon information regarding the battery received by the controller" ('567 patent, claim 13).

To the extent that any of the primary references do not disclose these or any related limitations, a POSITA would have been motivated to modify any such references based on any of the references in Exhibits A1–A24 and Appendix A disclosing those limitations.

A POSITA would have been motivated to combine the references to disclose a display mounted in a vehicle to display a time or battery information, such as the level of charge of the battery or the amount of time for the battery to be fully charged. Each of the references discloses controlling the charging of an electric-vehicle traction battery and conveying charging information to the vehicle's user. *See, e.g.*, Sutardja; Kelty '218; Pollack; Boll; Gale; Uchida; Zhang; Evans; Diller; Lowenthal '570; Lowenthal '340; Berdichevsky; Kressner; Sims; Kelty '078; Nor; Frey; Izuno; Fincham; WM7200, V2G, EV1, RAV4 EV, Tesla Roadster. These references are each also reasonably pertinent to the problem the '567 patent purports to address, namely, giving the user and the utility control over when, and to what level, a vehicle battery charges, including by starting

or delaying charging based on the monetary price of electrical power or on a user-entered time, without leaving the vehicle under-charged when it is next needed. *See* Boll, 1:55-2:14; Gale ¶¶ [0007], [0042]; Sims, 3:48-58; Diller, 6:30-55; Sutardja ¶¶ [0122]-[0123]; Kelty '218; Pollack; Uchida; Zhang; Lowenthal '570; Lowenthal '340; Kressner; Nor; Izuno; Fincham; WM7200, V2G, EV1, RAV4 EV, Tesla Roadster. A POSITA confronting the problem of scheduling and communicating EV battery charging would logically have consulted each of these disclosures.

Given this background, a POSITA would have found it obvious to display a time, a battery charge level, and a time to full charge on an in-console vehicle display, because such displays were well-established features of electric-vehicle charging systems designed to let the user verify and rely on a deferred charging schedule. *See, e.g.*, Boll; Evans; Diller; Sims; Nor; Berdichevsky; Kelty '078; Frey; Lowenthal '340; Fincham; WM7200, V2G, EV1, RAV4 EV, Tesla Roadster. The primary references already required a user interface and a controller that already held the information the claims recite displaying. Sutardja ¶¶ [0122]-[0123], [0242]-[0244]; Gale ¶¶ [0027], [0041]-[0042]; Boll, 2:57-67, 4:47-53; Lowenthal '340 ¶ [0061]; claim 19; Fincham, 14:35-15:10; WM7200, V2G, EV1, RAV4 EV, Tesla Roadster. Displaying battery charge level was equally well established, and for a stated reason: the user needed state of charge to determine whether the battery could drive the distance he had to travel, and an electrified vehicle needed a replacement for the fuel gauge that electrification had rendered meaningless. *See* Berdichevsky ¶ [0029]; Kelty '078, 5:9-18; Evans, 4:1-6; Boll, 5:36-45; Pollack, claim 4; Frey; Diller, 6:20-30; Lowenthal '340 ¶ [0028]; Fincham, 14:35-50; WM7200, V2G, EV1, RAV4 EV, Tesla Roadster. Mounting that display in the console or instrument panel was the conventional choice, because consolidated driver-facing instrumentation kept the driver's eyes on the road and placed all important operating information in the proper location. *See* Evans, 3:44-50; Boll, 5:18-22;

Berdichevsky ¶ [0031]; Kelty '078, 6:32-50; Diller, Fig. 1; Uchida ¶¶ [0142]-[0145]; Izuno; Fincham, 15:15-25; WM7200, V2G, EV1, RAV4 EV, Tesla Roadster. A POSITA would have therefore found it obvious to display a time, a charge level, and a time to full charge on a console-mounted display coupled to the charging controller. Such a design let the user confirm the schedule the controller had selected and verify that a cost-deferred charging session would still deliver a usable charge. A POSITA would have been motivated to combine these known techniques because doing so used information the controller already possessed, on hardware the system already included, to prevent the failure mode each charging scheme sought to avoid. *See* Boll, 2:8-14, 4:47-53; Berdichevsky ¶ 0029.

These features were well known in the prior art, as evidenced by the attached Exhibits and Appendix. A POSITA thus would have had a reasonable expectation of success, because each display function had been implemented successfully in electric vehicles using mid-1990s microcontroller and display technology, more than a decade before the priority date. *See* Boll; Evans; Diller; Nor; Sims; WM7200, V2G, EV1, RAV4 EV, Tesla Roadster. Console and instrument-panel mounting was routine automotive practice accomplished with conventional packaging and wiring, and the interfaces were built with well-known graphical interface techniques. *See* Evans, 3:40-50, 4:12-22; Berdichevsky ¶ [0031]; Kelty '078, 6:32-50; Diller, FIG. 1; Fincham, 15:15-25; WM7200, V2G, EV1, RAV4 EV, Tesla Roadster.

In view of the knowledge demonstrated in the art in Exhibits A1–A24 and Appendix A, it would have been obvious for a POSITA to implement a display that can display a time or various information about the vehicle battery, and he or she would have been motivated to do so for the advantages described above.

b) Automatically Charging the Battery Based on User Input or Rate of Charge

Some limitations of the Asserted Claims relate to automatically charging the battery based on user input, such as a time of day when charging will end, or rate of charge, including:

- "a user-manipulatable control coupled to the controller and operable by a user to enter a time of day" ('567 patent, claim 8);
- "wherein the controller automatically changes the supply of electric power to the vehicle battery during the course of the charging session by at least one of a group consisting of increasing a rate of charge of the battery, decreasing the rate of charge of the battery, starting battery charging, and stopping battery charging based at least in part upon the time needed to charge the vehicle battery by the time of day entered by the user" ('567 patent, claim 8); and
- "wherein the controller automatically changes the supply of electric power to the vehicle battery at a time associated with a cost of power to the battery reaching a threshold cost of power to the battery, wherein changing the charging state of the vehicle charger includes automatically starting charging when the cost of power to the battery is equal to or less than the threshold cost of power" ('567 patent, claim 8).

To the extent that any of the primary references do not disclose these or any related limitations, a POSITA would have been motivated to modify any such references based on any of the references in Exhibits A1–A24 and Appendix A disclosing those limitations.

A POSITA would have been motivated to combine the references to disclose automatically charging the battery based on user input or rate of charge. Each of the references is in the same field of endeavor: automatically controlling when an electric-vehicle traction battery draws power and at what rate it draws that power. *See, e.g.*, Sutardja; Kelty '218; Pollack; Boll; Gale; Uchida; Zhang; Diller; Lowenthal '570; Lowenthal '340; Berdichevsky; Kressner; Sims; Kelty '078; Nor; Izuno; Fincham. Each is also reasonably pertinent to the problem the '567 patent purports to address, namely, automating the start, stop, and rate of a charging session so that energy is drawn when it is cheap or the grid is lightly loaded, while still delivering the charge the user needs by the time the user needs it. *See* Boll, Abstract; 1:55-2:14; 4:47-53; Gale ¶¶ [0006], [0031]-[0032]; Sims, 1:35-46; Kelty '218, Abstract; claims 1, 3; Kressner, 9:40-65; Lowenthal '570; Berdichevsky; Fincham; WM7200, V2G, EV1, RAV4 EV, Tesla Roadster. A POSITA

confronting the problem of automating the start, stop, and rate of EV battery charging would logically have consulted each of these disclosures.

Given this background, a POSITA would have been motivated to provide a user control for entering the time of day at which the charging session will end, to automatically vary the rate, start, and stop of charging based on the time needed to charge by that entered time, and to automatically start charging when the cost of power falls to or below a threshold, because each of these was a well-established technique in electric-vehicle charging systems designed to shift load off peak without leaving the user with an uncharged vehicle. A user control for entering the time by which charging must be complete was known and was the conventional input to a deferred-charging scheme. *See, e.g.*, Gale ¶¶ [0007], [0042], claim 1; Sims, 3:5-10; Boll, 4:47-53; claim 12; Kelty '218; Kressner; Lowenthal '570; Berdichevsky; Kelty '078; Fincham, 14:25-15:10; Diller, 6:38-55; Sutardja ¶¶ [0122]-[0123], [0243]-[0244]; WM7200, V2G, EV1, RAV4 EV, Tesla Roadster. Automatically varying the rate, start, and stop of charging based on the time available before that entered deadline was equally well established. *See, e.g.*, Sims, 3:48-4:10; 4:19-30; FIGS. 3a-3c; claims 1, 3; Boll, 3:20-40; claim 1; Gale ¶¶ [0038]-[0039], [0042]-[0044]; claims 4, 7, 19, 22; Kressner, 9:46-65; Lowenthal '570, 9:50-60; Berdichevsky ¶ [0030]; Kelty '078, 6:1-18; Fig. 3; Zhang ¶¶ [0035]-[0039]; WM7200, V2G, EV1, RAV4 EV, Tesla Roadster. Automatically starting charging when the cost of power reached a threshold was also known. *See, e.g.*, Kelty '218, Abstract; claims 1, 3; Fincham, 14:55-15:10; Lowenthal '570, 8:33-45; Nor, 4:4-20; 10:28-45; Pollack, claims 4, 16; WM7200, V2G, EV1, RAV4 EV, Tesla Roadster. A POSITA would have therefore found it obvious to implement a charger that accepts a user-entered session end time, automatically increases, decreases, starts, or stops charging based on the time needed to reach charge by that entered time, and automatically starts charging when the cost of power is at

or below a threshold. A POSITA would have been motivated to combine these known techniques because a cost-threshold rule standing alone risks leaving the vehicle uncharged when cheap power never arrives within the available window, and a deadline rule standing alone forfeits available savings, whereas operating both rules together captures the savings while guaranteeing the charge. *See, e.g.*, Sims, 1:35-46, 3:55-4:10; Gale ¶¶ [0007]-[0010]; Boll, 2:8-14, 4:47-53; WM7200, V2G, EV1, RAV4 EV, Tesla Roadster.

These features were well known in the prior art, as evidenced by the attached Exhibits and Appendix. A POSITA would have had a reasonable expectation of success, because the combinations required no new hardware and no new control theory. The references already disclose a controller that switches charging on and off, that modulates the current delivered, and that communicates bidirectionally with a utility or remote server. *See, e.g.*, Sutardja ¶¶ [0241]-[0244]; Gale ¶¶ [0027], [0040]-[0044]; Kelty '218, claims 1-2; Lowenthal '570, 7:15-40; Kressner, 9:40-65; Fincham, 14:25-60; WM7200, V2G, EV1, RAV4 EV, Tesla Roadster. Those controllers already hold every input the claimed control rules require, including the battery state of charge, the maximum rate at which the battery can be charged, the cost of power over time, and the user's requested completion time. *See, e.g.*, Gale ¶¶ [0027], [0041]-[0043]; Sutardja ¶¶ [0122]-[0123], [0242]; Boll, 2:28-40; Sims, 3:48-58; Kelty '218, claims 1, 3; Kressner, 9:46-65; Fincham, 14:35-15:10; WM7200, V2G, EV1, RAV4 EV, Tesla Roadster. Modulating charging current under processor control was a mature technique implemented in mid-1990s electric-vehicle charging hardware, well before the priority date. *See, e.g.*, Sims, 3:15-4:30; Boll, 3:20-40; Nor, 6:30-7:12; Diller, 6:38-55. Interrupting, resuming, and rate-limiting the delivery of charging current was likewise routine and was accomplished with conventional switching and charge-control modules. *See, e.g.*, Nor, 6:44-7:10; Zhang ¶¶ [0029]-[0031]; Lowenthal '570, 7:20-40; WM7200, V2G,

EV1, RAV4 EV, Tesla Roadster. The uniformity with which these references perform those functions confirms that a POSITA would have expected the combinations to operate as intended.

c) Communication Between Battery, Vehicle, Vehicle Charger, Remote Controller, and/or Remote Computer

Some limitations of the Asserted Claims relate to communication, including wireless communications, between the battery, the vehicle, the vehicle charger, remote controller, and/or remote computer, including:

- "A vehicle charger for charging a battery of a vehicle in the course of a charging session, the vehicle charger adapted for wireless communication with a computer remote from the vehicle and vehicle charger, the computer including a remote controller, the vehicle charger comprising:" ('567 patent, claim 8);
- "a controller" ('567 patent, claim 8);
- "wherein the controller is responsive to at least one signal from the remote controller by changing the supply of electric power to the vehicle battery to start charging" ('567 patent, claim 8);
- "the at least one signal from the remote controller being received by the controller in response to a user selecting a second user-manipulable control on a screen associated with the remote controller" ('567 patent, claim 8);
- "at least one of a transmitter and a receiver, wherein the controller is adapted for wireless communication with the remote controller of the computer via the at least one of the transmitter and receiver" ('567 patent, claim 10); and
- "the controller is adapted for automatic establishment of communication with a second controller remote from the vehicle and the vehicle charger upon connection of the vehicle charger with at least one of the battery and a source of power" ('567 patent, claim 11).

To the extent that any of the primary references do not disclose these or any related limitations, a POSITA would have been motivated to modify any such references based on any of the references in Exhibits A1–A24 and Appendix A disclosing those limitations.

A POSITA would have been motivated to combine the references to disclose communications between the battery, the vehicle, the vehicle charger, remote controller, and/or remote computer. Each is in the same field of endeavor: networked electric-vehicle charging, in

which a charging controller exchanges data with, and takes charging commands from, a remote computer, a utility server, or a user's remote device. *See, e.g.*, Sutardja ¶¶ [0241]-[0246]; Kelty '218, Abstract; Pollack, claims 1, 6, 9-11; Gale ¶¶ [0026]-[0027]; Uchida ¶¶ [0049], [0058]; Zhang ¶¶ [0035]-[0039]; Lowenthal '570, 7:15-40; Lowenthal '340 ¶¶ [0030]-[0037]; Berdichevsky ¶¶ [0027]-[0029]; Kressner, 9:40-65; Kelty '078, 4:1-40; Nor, 6:5-30; Frey, 2:30-36; Izuno; Fincham, 13:60-14:20; Boll, 5:22-35. Each is also reasonably pertinent to the problem the '567 patent purports to address, namely, establishing a data link between the vehicle charging controller and a remote system so that charging can be initiated, monitored, and controlled from off the vehicle without requiring the user to be present at the charger. *See, e.g.*, Berdichevsky ¶¶ [0005], [0029]; Kelty '078, 1:33-45, 4:55-68; Gale ¶¶ [0026]-[0027]; Sutardja ¶¶ [0241]-[0246]; Nor, 6:5-30, claim 1; Pollack, claims 1, 6, 9-11; Uchida ¶¶ [0052]-[0053]; Lowenthal '570, 6:55-7:10; Izuno; Fincham, 13:60-14:20. A POSITA confronting the problem of linking a vehicle charging controller to a remote computer would logically have consulted each of these disclosures.

Given this background, a POSITA would have been motivated to equip a vehicle charging controller with a transmitter and receiver for wireless communication with a remote computer, to start charging in response to a signal generated when a user selects a control on that remote computer's screen, and to establish that communication automatically upon connection of the charger to the battery or to a source of power, because each of these was a well-established technique in networked electric-vehicle charging systems. Wireless communication between an on-vehicle charging controller and a remote computer was conventional, and was implemented with network interface modules and antennas, radio frequency transmitters and receivers, and cellular and wireless local area network links to utility and manufacturer servers. *See, e.g.*, Sutardja ¶¶ [0241], [0245]-[0246]; Berdichevsky ¶¶ [0027]-[0029]; Kelty '078, 4:1-40; Lowenthal

’570, 7:15-40; Nor, 10:5-18, claims 2, 11; Gale ¶ [0027]; Izuno. Initiating charging in response to a user’s selection on a remote screen was likewise known, whether the screen belonged to a mobile communication device, a payment station with a touch-sensitive display, a web or cell-phone interface, or a personal computer, and the selection was transmitted to the charging controller as a command to begin charging. *See, e.g.*, Lowenthal ’570, 6:55-7:10, 8:45-60; Pollack, claims 6, 12, 15; Berdichevsky ¶¶ [0029]-[0030]; Kelty ’078, 4:55-68, 5:38-45; Uchida ¶¶ [0052]-[0053], [0116]; Fincham, 13:60-14:20. A POSITA would have therefore found it obvious to implement a charging controller that communicates wirelessly with a remote computer through a transmitter and receiver, that starts charging on a signal generated by a user’s selection on the remote computer’s screen, and that establishes that communication automatically on connection. A POSITA would have been motivated to combine these known techniques. *See, e.g.*, Nor, 8:40-60; Berdichevsky ¶¶ 0005, 0034; Sutardja ¶ 0244; Lowenthal ’570, 6:55-7:10.

A POSITA would have had a reasonable expectation of success, because the combinations required no new communication technology and no new protocols. The references implement the claimed links with off-the-shelf standard protocols, including 802.11, cellular, CDMA, TDMA, GSM, GPRS, TCP/IP, Bluetooth, and ZigBee, each of which was mature and widely deployed well before the priority date, and with equally conventional hardware that the references identify as interchangeable alternatives for the same function. *See, e.g.*, Berdichevsky ¶ [0027]; Kelty ’078, 4:20-40; Sutardja ¶¶ [0245]-[0248]; Lowenthal ’570, 7:15-40; Gale ¶ [0027]; Nor, 10:1-18, claims 2, 11. The remote devices were ordinary consumer hardware already in the user’s possession, including cell phones, PDAs, laptops, personal computers, and web browsers. *See* Berdichevsky ¶ [0027]; Pollack, claim 6; Fincham, 13:60-14:20; Izuno. The uniformity with

which these references perform those functions confirms that a POSITA would have expected the combinations to operate as intended.

2. U.S. Patent Nos. 11,258,107 & 11,721,844 – Exemplary Motivations to Combine

As explained above, a person of ordinary skill in the art would have been motivated to combine each primary reference (Exhibits B1–B12) with one or more of (1) any other primary reference, (2) any secondary reference listed in Appendix B, and (3) any reference identified in the subsections below on motivations to combine to arrive at the claimed invention. For each proposed combination, Defendant may rely on additional references in connection with combinations to show the state of the art, general knowledge of a person of ordinary skill in the art at the time of the alleged invention, or additional motivations to make such combinations.

The following are exemplary motivations to combine:

a) Two-Way Wireless Communication Between a Vehicular Battery Charger Controller and a Remote Portable Controller Including a Phone

Some limitations of the Asserted Claims relate to two-way wireless communication between a vehicular battery charger controller and a remote portable controller including a phone, and from which a user may issue start and stop charging commands, including:

- "establishing wireless communication between a controller of the vehicular battery charger and a portable controller of a user remote from the vehicle and the vehicular battery charger" ('107 patent, claim 6)
- "the controller is configured to send the at least one signal to a portable controller remote from the vehicle and the battery charger" ('844 patent, claim 2)
- "receiving, via a user-manipulatable control, data" ('107 patent, claim 6)
- "the controller is configured to receive . . . data" ('844 patent, claim 8)
- "generating and wirelessly transmitting . . . a signal to the portable controller" ('107 patent, claim 6)
- "generating and wirelessly transmitting . . . a signal" ('844 patent, claim 9)

- "wirelessly transmitting the signal comprises wirelessly transmitting the signal from the controller of the vehicular battery charger" ('107 patent, claim 8)
- "wireless communication with a phone having a controller" ('107 patent, claim 10)
- "a controller electrically coupled to a battery charger" ('844 patent, claim 1)
- "a transmitter" ('107 patent, claim 10)
- "wirelessly communicate with the controller of the phone by sending signals via the transmitter" ('107 patent, claim 10)
- "receive, via a user-manipulatable control, data" ('107 patent, claim 10)
- "receiving, via a user-manipulatable control, data" ('844 patent, claim 13)
- "send a signal . . . via the transmitter to the controller of the phone" ('107 patent, claim 10)
- "wirelessly send . . . at least one signal via a transmitter" ('844 patent, claim 1)
- "the battery charger controller is further responsive to signals from the phone" ('107 patent, claim 12)
- "the controller is further configured to receive a signal" ('844 patent, claim 7)
- "the battery charger controller is further responsive to signals from the phone to start and stop charging of the battery." ('107 patent, claim 12)
- "the battery charger controller is further responsive . . . by sending another signal . . . via at least one of the group consisting of the transmitter and the receiver to the controller of the phone." ('107 patent, claim 14)
- "the portable controller generates a notification to a user . . . as a result of receiving the at least one signal" ('844 patent, claim 3)
- "the signal includes at least one selected from a group consisting of an e-mail and a text." ('844 patent, claim 12)

To the extent that any of the primary references do not disclose these or any related limitations, a POSITA would have been motivated to modify any such references based on any of the references in Exhibits B1–B12 and Appendix B disclosing those limitations. A POSITA would have been motivated to combine these references because each of these references is analogous

art. Every reference is either in the same field of endeavor as the ’107 and ’844 patents—the charging of a vehicle battery and the communication of battery and charging status to a user—or is reasonably pertinent to the problem the named inventors confronted, namely conveying the status of an unattended charging operation to a user who is not present at the vehicle or the charger. *See* Hobbs ¶¶ 0013, 0031; Kuromame ¶ 0012; EV1 at 80–81; WM7200 at 4–5; RAV4-EV at 26, 32; Roadster Touch Screen Manual at 7; Johnson ¶¶ 0109–0110; Uchida ¶ 0059. Hunt, Cornwall, Anttila, Xsilogy, Liebenow, and Duncan are directed to the same problem of monitoring a battery or power condition and conveying it to a user or device at a remote location, and supply the transmitter and the wireless link to a portable controller or phone in the user’s possession. *See* Hunt ¶ 0031; Cornwall ¶¶ 0029, 0038, 0044; Anttila ¶ 0012; Liebenow, 2:28–37; Xsilogy, 3:15–18; Duncan ¶¶ 0019–0020. That a POSITA would have looked to these references together is confirmed by the charging references themselves, several of which already pair battery charging with wireless communication to a remote user. *See* Tseng, 5:46–62; Kelty ’078, 9:8–11; Hobbs ¶ 0037; Brooks at 22; Bridges, 11:40–48; Sutardja ¶¶ 0243–0245, 0251.

A POSITA would have been motivated to combine these teachings for the reasons the references themselves supply. Charging a vehicle battery may take more than several minutes, and the operator is expected to leave the vehicle while charging proceeds; the references accordingly teach placing status information in the hands of a user who is away from the charger. *See, e.g.*, Tseng, 5:46–62; Kelty ’078, 9:8–11; Brooks at 22; Bridges, 11:40–48; Sutardja ¶¶ 0243–0245, 0251. Because a display mounted on a garage wall or a vehicle dashboard is of no use to an operator who is elsewhere, a POSITA would have been motivated to adopt the wireless notification techniques of Hunt, Cornwall, Anttila, Xsilogy, Liebenow, and Duncan in any charging system that annunciated charging status only locally. The same motivation extends to two-way control.

Kelty ’078 discloses that the vehicle user may control the starting and stopping of charging of the battery pack via key fob, and that the options may be added to a cellphone connection or other mobile device following the same network connections used for the other charging options, Kelty ’078, 7:35–43, and a POSITA would accordingly have been motivated to implement these known and routine features on a phone as Kelty ’078 expressly contemplates. *See also* Berdichevsky cl. 25; Bridges, 30:15–19; Brooks at 11; Tseng, 3:39–59; Johnson ¶¶ 0109–0110; Uchida ¶ 0059.

A POSITA would also have had a reasonable expectation of success in each of these combinations. Each unites discrete, modular, and well-characterized components according to their established functions, and each component performs in the combination exactly as it performed separately. The charger does not charge differently because a means for wireless communication, such as a radio or other transmitter, is attached, and the means for wireless communication does not operate differently because its payload concerns a vehicle battery rather than a utility meter or a handset. That several of the charging references already incorporate wireless communication to a remote user (Tseng, 5:46–62; Kelty ’078, 9:8–11; Hobbs ¶ 0037; Brooks at 22; Bridges, 11:40–48; Sutardja ¶¶ 0243–0245, 0251) confirms that uniting these teachings is the application of a known technique to a known device ready for improvement, yielding an entirely predictable result. The form of the notification presented no greater difficulty: e-mail, SMS text, pop-up notification, on-screen indicator, audible tone, and dedicated indicator light were a small, finite, and fully interchangeable set of known delivery modalities, each disclosed in the art and each carrying a well-understood expectation of success. *See, e.g.*, Anttila ¶¶ 0002, 0003, 0005, 0012; Xsilogy, 10:10–13.

b) A Predetermined Threshold Level of Charge

Some limitations of the Asserted Claims relate to user provision of a predetermined threshold level of charge that is less than 100% charge and comparison of the state of charge to

the threshold level of charge and the sending of an alert when the state of charge reaches the less than 100% threshold level of charge or when there is an interruption of power to the battery, including:

- "receiving, via a user-manipulatable control, data indicative of a predetermined threshold level of charge by which the controller sends an alert, the predetermined threshold level of charge being less than a full charge of the battery" ('107 patent, claim 6)
- "the controller is configured to receive, via a user-manipulatable control, data indicative of the predetermined threshold level of charge" ('844 patent, claim 8)
- "comparing, during charging of the battery with the vehicular battery charger, a level of charge of the battery to the predetermined threshold level of charge" ('107 patent, claim 6)
- "comparing, during charging of the battery with the vehicular battery charger, a level of charge of the battery to a predetermined threshold level of charge" ('844 patent, claim 9)
- "generating and wirelessly transmitting, during the charging of the battery and before the charging of the battery is complete, a signal to the portable controller responsive to detecting the level of charge of the battery reaching the predetermined level of charge of the battery." ('107 patent, claim 6)
- "generating and wirelessly transmitting, during the charging of the battery and before charging of the battery is complete, a signal responsive to detecting the level of charge of the battery reaching the predetermined threshold level of charge" ('844 patent, claim 9)
- "the signal includes data indicative of the level of charge of the battery" ('107 patent, claim 7)
- "the signal includes data indicative of the level of charge of the battery" ('844 patent, claim 10)
- "receive, via a user-manipulatable control, data indicative of a predetermined threshold level of charge by which the battery charger controller sends an alert, the predetermined threshold level of charge being less than a full charge of the battery" ('107 patent, claim 10)
- "receiving, via a user-manipulatable control, data indicative of the predetermined threshold level of charge" ('844 patent, claim 13)

- "compare, during charging of the battery with the vehicular battery charger, a level of charge of the battery to the predetermined threshold level of charge" ('107 patent, claim 10)

- "the controller configured to compare, during charging of the battery with the battery charger, a level of charge of the battery to a predetermined threshold level of charge" ('844 patent, claim 1)

- "responsive to detection of the level of charge of the battery reaching the predetermined threshold level of charge during the charging session and before charging of the battery is complete, send a signal indicative of the level of charge being reached via the transmitter to the controller of the phone as an alert" ('107 patent, claim 10)

- "responsive to the level of charge of the battery reaching the predetermined threshold level of charge, wirelessly send, before the charging of the battery is complete, at least one signal via a transmitter, the at least one signal indicative of the predetermined threshold level of charge of the battery." ('844 patent, claim 1)

- "the portable controller generates a notification to a user indicating the predetermined threshold level of charge of the battery following and as the result of receiving the at least one signal indicative" ('844 patent, claim 3)

To the extent that any of the primary references do not disclose these or any related limitations, a POSITA would have been motivated to modify any such references based on any of the references in Exhibits B1–B12 and Appendix B disclosing those limitations. A POSITA would have been motivated to combine these references because each reference is analogous art. Each reference is directed either to charging a battery to a level the user selects, or to comparing a measured battery condition against a stored threshold and acting on the result—the same field of endeavor and the same alleged problems the named inventors are alleged to have addressed. These references also concern user-configurable charge levels for battery-powered systems. *See, e.g.*, Tseng, 3:39–59; Uchida ¶¶ 0110–0113, 0053, 0116, 0124; Johnson ¶¶ 0012, 0097–0104, cl. 13(c); Roadster Touch Screen Manual at 8–9; Brooks at 18–20; Bridges, 10:56–11:16, 12:4–11, 25:30–49; Sutardja ¶¶ 0235, 0270; Kelty '078, 5:13–17; Berdichevsky ¶ 0029. Comparing a measured charge level against a stored threshold during charging is elementary charge control, and was also

disclosed by these references. *See, e.g.*, Kelty '433 ¶ 0020; Hobbs ¶ 0013; Johnson ¶¶ 0109–0110; Uchida ¶ 0059; Collins at 5:1–18, 5:49–67; Patino at 7:17–25; DeRome, 8:16–19, 8:38–41; Liebenow, 2:28–37; Xsilogy, 10:5–10.

A POSITA would have been motivated to combine these teachings because the references themselves explain why combining their teachings is desirable. Tseng states the point most directly: the operator may wish to know the status of the charging process, Tseng at 1:44–47, so that time is not wasted wondering when the vehicle will be charged, especially when charging in a business area or a shopping area, *id.* at 2:1–6. That the selected level may be less than a full charge was likewise well known and expressly desired. *See, e.g.*, Uchida ¶¶ 0004–0013, 0102; Berdichevsky cl. 14; Tseng, 5:24–26, 5:27–30; Brooks at 18–20; Bridges, 22:34–47, 23:6–12; WM7200 Manual at 7–8; RAV4-EV at 29–30. Making the threshold user-settable rather than fixed was accordingly a routine design choice between two known alternatives, and the references adopting the user-settable alternative for charge levels (Tseng, Uchida, Johnson, the Tesla Roadster manuals, Brooks, Bridges, Sutardja, Kelty '078) and for alert parameters (Collins at 4:1–22; Xsilogy, 10:5–10) show that a POSITA had every reason to select it. The same motivation extends to reporting an interruption of the charging session, because a user who is told that a chosen threshold has been reached has equal reason to be told that charging has stopped before it was. *See, e.g.*, Bridges, 11:40–48; Kelty '078, cl. 5, 5:13–26; Berdichevsky, cl. 23.

A POSITA would also have had a reasonable expectation of success. Sending an alert to a remote user upon a user-configured threshold being reached was not a speculative design; that precise arrangement was already disclosed in the art. Tseng ties together vehicle charging and the issuance of an alert to a remote user based on a less-than-full, user-selected predetermined threshold being reached: the operator selects the charge level at the station's keypad (Tseng, 3:39–

59) and the station thereafter reports charge status to the operator's portable receiver and sounds a beeper when the vehicle is sufficiently charged. *See, e.g.*, Tseng, 5:24–30, 5:46–62; Collins, 2:13–20, 4:1–22, 5:1–18; Xsilogy, 10:5–10; Hobbs ¶ 0013. Each of these arrangements employs a stored threshold, a comparator, and a notification path that behave in combination exactly as they behave alone, and substituting a user-selected intermediate threshold for a fixed one required no more than routine parameter selection with a predictable result. Given the references' contemplation of two-way communication between a user and the vehicular battery charger, a POSITA would have been motivated to consider and incorporate all of these teachings with a reasonable expectation that they would work as intended.

3. U.S. Patent No. 11,508,996 – Exemplary Motivations to Combine

As explained above, a person of ordinary skill in the art would have been motivated to combine each primary reference (Exhibits C1–C8) with one or more of (1) any other primary reference, (2) any secondary reference listed in Appendix C, and (3) any reference identified in the subsections below on motivations to combine to arrive at the claimed invention. For each proposed combination, Defendant may rely on additional references in connection with combinations to show the state of the art, general knowledge of a person of ordinary skill in the art at the time of the alleged invention, or additional motivations to make such combinations.

The following are exemplary motivations to combine:

(1) Sufficient Alignment and Control for Inductive Charging

The Asserted Claim relates to detecting the alignment of a vehicle-mounted inductive charging core with an exterior core and enabling a displayed user control for charging when alignment is detected, including:

- "detecting a positional relationship between a first core on the vehicle and a second core in a location exterior to the vehicle," "detecting an alignment of the first core with respect to

> the second core within a predetermined threshold," and "in response [to] detecting the alignment . . . enabling a user control displayed on a display for controlling the induction charging of the battery" ('996 patent, claim 15).

To the extent that any of the primary references do not disclose these or any related limitations, a POSITA would have been motivated to modify any such references based on any of the references in Exhibits C1–C8 and Appendix C disclosing those limitations.

A POSITA would have been motivated to enable well-known electric vehicle inductive charging, requiring sufficient alignment, and to deploy user controls to optimize safe and effective charging. For example, a POSITA would have been motivated to combine the user control displayed on a display for controlling the charging of the battery of BK Pryor with the existing alignment displays of the Roadway Powered Electric Vehicle Project System. Such a combination would have been obvious to a person of skill in the art because both *inter alia* relate to vehicle charging, in circumstances where the charger is sufficiently aligned to enable charging, and the use of a display. The invention of BK Pryor is explicitly not limited to plug-in vehicles. And BK Pryor itself claims, "a detector coupled to said cable and to said processor to detect when said cable is connected to the external power source, wherein said processor is configured to commence charging said battery assembly when the predetermined charge initialization time is reached and when said detector indicates that said cable is coupled to the external power source." Moreover, a person of ordinary skill in the art would have had a reasonable expectation of success in combining the display of the Roadway Powered Electric Vehicle Project System with that of BK Pryor, at least in accordance with their own knowledge and the teachings above and of the additional prior art references identified in the charts of the other Exhibits and in the Appendices and the other additional references, including the systems, identified above. Such teachings were known to be successful and functional, would have been common knowledge, obvious to try, one

of a finite number of known options, a matter of design choice, and would have yielded predictable results in charging an electric vehicle.

Likewise, a POSITA would have been motivated to combine the user control displayed on a display for controlling the charging of the battery of Bauhahn with the existing alignment displays of the Roadway Powered Electric Vehicle Project System. Such a combination would have been obvious to a POSITA because both *inter alia* relate to inductive charging, in circumstances where the charger is sufficiently aligned to enable charging, and the use of a display. The invention of Bauhahn is a generic interface for inductive charging that would have been applicable to the vehicle context. Moreover, a person of ordinary skill in the art would have had a reasonable expectation of success in combining the display of the Roadway Powered Electric Vehicle Project System with that of Bauhahn, at least in accordance with their own knowledge and the teachings above and of the additional prior art references identified in the charts of the other Exhibits and in the Appendices and the other additional references, including the systems, identified in this cover document. Such teachings were known to be successful and functional, would have been common knowledge, obvious to try, one of a finite number of known options, a matter of design choice, and would have yielded predictable results in charging an electric vehicle.

Other references, including SAE, Minoshima, Izuno, Ross 600, Ross 470, Ross 090, WM7200, Seelig, Lara, Canedy, Yokota, Wilson, Bruni, Cramer, Plishner, and Oyobe, relate to inductive charging (including core alignment), electric vehicle charging, and displays. The same motivations would apply to additional combinations with these references, for at least the reasons discussed above.

4. U.S. Patent No. 11,909,010 – Exemplary Motivations to Combine

As explained above, a person of ordinary skill in the art would have been motivated to combine each primary reference (Exhibits D1–D11) with one or more of (1) any other primary

reference, (2) any secondary reference listed in Appendix D, and (3) any reference identified in the subsections below on motivations to combine to arrive at the claimed invention. For each proposed combination, Defendant may rely on additional references in connection with combinations to show the state of the art, the general knowledge of a person of ordinary skill in the art at the time of the alleged invention, or additional motivations to make such combinations.

Each of the references charted in Exhibits D1–D11 and Appendix D is in the same field of endeavor as the '010 patent—electric vehicle battery charging systems—and each is reasonably pertinent to the problems with which the named inventors were concerned, namely programming a charging session, computing and presenting the time required to charge, presenting the level of charge to the driver, communicating with a controller remote from the vehicle, and charging against the cost of power. Each combination identified below therefore draws on analogous art.

The following are exemplary motivations to combine:

a) Computing and Displaying the Time Required to Charge, Updated During a Programmed Charging Session

Some limitations of the Asserted Claims relate to beginning a charging session on a programmed condition, calculating the time required to charge the battery, and displaying and repeatedly updating that time on an in-vehicle display, including before charging begins, including:

- "calculate an amount of time required to charge the battery," "display the amount of time . . . during the active charging session . . . before charging starts," and "repeatedly update the displayed amount of time" ('010 patent, claims 1, 9, and 15 and their dependents).

To the extent any primary reference does not disclose these or any related limitations, a person of ordinary skill in the art would have been motivated to modify that reference in view of any of the references in Exhibits D1–D11 and Appendix D that disclose them.

The computation itself was routine and expressly taught. Boll determines the required remaining charging time tR by closed-form algorithm from the desired charge, the actual charge and the charging efficiency, and drives a display unit with it. Ishii calculates the charging time as the battery capacity less the remaining capacity divided by the charge current. Fujita calculates the charge time as $t=(CL-C)/(k \cdot I)$ and displays it on the instrument panel as the residual time before completion. Hotta '710 calculates the necessary charging period from the energy discharged from the battery and the predetermined charging current. Sakai determines the charge time from the depth of discharge estimated from the minimum of the voltage variation. *See* Exs. D1, D2, D4, D5, App. D.

So was performing that computation while a programmed session is open but before current flows. Hayashi calculates the required time to charge in order to predict the charging completion time while the device is in the standby-for-charging state—that is, after the user has instructed "start charging" and while the device waits for an intentionally delayed start time. Ishii indicates the time required to charge at the moment the time-specified charge is set, before the charge starting time arrives. Hotta '710 holds the apparatus in a charge holding mode until the calculated charging start time, computing the necessary charging period in that interval. A person of ordinary skill in the art therefore had before him an express teaching that the computation belongs in the delay window, not merely at the instant current begins to flow. *See* Exs. D2, D3, D4.

A person of ordinary skill in the art would have appreciated that calculating the time required to charge after the session is initiated but before charging commences improves the accuracy of the figure presented to the user, because the inputs on which the computation depends—the battery's present state of charge, its temperature and the current available from the supply—are known at that moment and may have changed since the session was programmed.

Sakai teaches that the time required for charging is calculated in part from a temperature detected before charging current is supplied. Boll teaches that the lead time required to cool the battery sufficiently to start the charging operation may be calculated first, and the charging operation precalculated with the temperature course of the battery taken into account. *See* Ex. D1, App. D.

A person of ordinary skill in the art would also have appreciated that presenting the figure before charging begins permits verification that the programmed session still suits the user's plans, and correction of the charge mode if it does not. Boll makes that rationale explicit: it directs that the start and end times be entered after the user has informed himself of the required remaining charging time, "so that the charge time interval is not selected to be too brief." *See* Ex. D1.

Repeated updating was equally conventional. Fujita renews the charge current, temperature, and residual amount at intervals, recomputes the charge time on the renewed values, and repeats the loop until the required amount is reached. Ozawa loops steps ST3 through ST12, recomputing the remaining capacity and the charging time and refreshing the display on each pass until full charge is detected. Ishii recalculates the charging time from the accumulating charged capacity and indicates the time to completion in succession. Hayashi updates the predicted charging completion time on interrupt whenever the current-limit values change, and in the disclosed alternative reduces the displayed charging time incrementally as charging progresses. *See* Exs. D2, D3, D5, App. D.

The modification is the use of a known technique to improve similar devices in the same way, and the combination of prior art elements according to known methods to yield predictable results. Each primary reference already contains the controller, the state-of-charge sensing, and the display that the modification uses; nothing more than ordinary skill would have been required, and a person of ordinary skill in the art would have had a reasonable expectation of success.

b) Beginning a Charging Session on a Programmed Time-of-Day Condition

Certain limitations relate to beginning an active charging session based on a programmed manner of charge and at least one condition, the condition including a time of day received through a user interface ('010 patent, claims 1, 7, 8, 9, 13, 14, 15, and 17).

The programmed, time-of-day-triggered charge was a standard feature of the art. Ishii's time-specified charge mode stores a user-entered charge starting time, compares the present time from the timer against it, and starts the charge when the specified time arrives. Hayashi's start scheduling processing receives a charging start date and time from the control panel and places the device in a standby state until that time. Hotta '710 derives the charging start time from a scheduled boarding time the driver sets on a key switch. The Toyota RAV4-EV System's TIME SET and TIMER CHARGE sequence arms a session that begins at the set time of day. The Tesla Roadster System's Timing setting schedules charging to begin at a specific time and holds the session in a "Charge Pending" state until it arrives. Sutardja's charging parameters expressly specify "a time of the day to charge the batteries." *See* Exs. D2, D3, D4, D7, D8, D11.

The motivation is stated in the art itself and is economic. Ishii explains that the time-specified charge makes it possible to charge on midnight electric power and thereby reduce charging cost. Boll provides the start-time and end-time inputs "in order to be able to charge by means of inexpensive night current." The Toyota RAV4-EV System directs the owner to recharge "at any convenient or cost effective time (for example, during off-peak hours), by using the battery charge timer." The Magne Charge Delay Timer was "provided to allow you to take advantage of these lower rates" offered for off-peak charging. Sutardja contemplates that the user may direct that the utility company "choose the time to charge the batteries when the cost is lowest." A person of ordinary skill in the art needed no more than these express statements to be motivated to add a programmed start time to any charger that lacked one. *See* Exs. D1, D2, D7, D8, D9.

c) A Receiver and a Second Controller Remote from the Vehicle

Certain limitations relate to a receiver coupled to the onboard controller and configured to establish communication with a second controller remote from the vehicle and the vehicle charger, to controlling power supply responsive to data received from that controller, and to changing a charging state on that data ('010 patent, claims 2, 3, 4, 10, 15, and their dependents).

Networked control of vehicle charging was well developed before the alleged invention. Kelty '078 discloses a communication chip in the vehicle communicating over a first network to a second network, a utility company server, and a user interface device, with the utility remotely querying the vehicle's state of charge and sending instructions that turn charging off during high consumption and back on during low consumption. Sutardja discloses a network interface module that transmits the vehicle's charging parameters to a utility company and receives a reply, over a wireline, wireless, or powerline-carrier interface, with the control module generating the charge control signal from that reply. The V2G System maintained a standing wireless session between an onboard control computer and a remote aggregator, which dispatched power commands at four-second intervals that the vehicle converted into AC line current commands. Nor discloses a vehicle–station data communication link that may be a radio-frequency transmitter and receiver located in each of the vehicle and the power station. Suyama discloses wireless transmission of charge-status and residual-capacity information from the vehicle to a portable remote unit. *See* Exs. D6, D7, D10, App. D.

A person of ordinary skill in the art would have been motivated to add that interface to any primary reference that lacked one in order to obtain the benefits the art expressly attributes to it: load management on the distribution system, access to off-peak pricing, and the ability to supervise and interrupt a charge without walking to the vehicle. Sutardja explains that utility companies receiving charging parameters "may analyze the charging parameters and assess the load on the

power distribution systems" and may negotiate alternate parameters with the user. Kelty '078 explains that the arrangement allows the utility to reduce load and avoid "the sometimes necessary rolling blackouts." The modification is the combination of familiar elements according to known methods yielding no more than predictable results. *See* Exs. D6, D7.

5. U.S. Patent No. 11,909,011 – Exemplary Motivations to Combine

As explained above, a person of ordinary skill in the art would have been motivated to combine each primary reference (Exhibits E1–E11) with one or more of (1) any other primary reference, (2) any secondary reference listed in Appendix E, and (3) any reference identified in the subsections below on motivations to combine to arrive at the claimed invention. For each proposed combination, Defendant may rely on additional references in connection with combinations to show the state of the art, the general knowledge of a person of ordinary skill in the art at the time of the alleged invention, or additional motivations to make such combinations.

As with the '010 patent, each of the references charted in Exhibits E1–E11 and Appendix E is in the same field of endeavor as the '011 patent and is reasonably pertinent to the problems with which the named inventors were concerned.

The following are exemplary motivations to combine:

a) Wireless Communication with a User's Portable Controller, and Charging Responsive to a Wireless Signal

Certain limitations relate to a controller that establishes wireless communication with a portable controller of a user remote from the vehicle and the vehicular battery charger, receives a wireless signal from that portable controller, and supplies electricity to the battery in response ('011 patent, claim 1 and its dependents, including claims 4, 7, 8, 10, 12, and 19).

Kelty '078 discloses precisely this architecture: a communication chip installed in the electric vehicle communicating over a first network to a second network and to a user interface

device—expressly a cell phone, PDA or other handheld device—from which the user may "program and send specific instructions to the electric vehicle 12 for controlling and monitoring the battery system," including powering the charging of the battery on and off "in predetermined cycles and at predetermined times." Suyama discloses wireless transmission from the vehicle to a portable display unit removable from the electric vehicle, carrying its own power supply, receiving means and display means. Sutardja discloses a network interface module comprising "a wireline interface, a wireless interface, [or] a powerline carrier (PLC) interface" through which the vehicle transmits its charging parameters and receives a reply that may specify "a second time to begin charging." The V2G System maintained a standing wireless session between the vehicle's onboard control computer and a remote aggregator that dispatched power commands at four-second intervals setting power flow from the grid into the battery, while the vehicle streamed state-of-charge telemetry back throughout operation. *See* Exs. E2, E3, E4, E10.

Moving the remote endpoint from an operator's or a utility's server to the user's own portable device was a known and trivial step, and the art had already taken it. Kelty '078 places the user's cell phone or PDA on the same footing as the utility server and the manufacturer's server, and Suyama places the display in a unit the user carries. A person of ordinary skill in the art would have been motivated to adopt that endpoint for the obvious reason the art gives: the user is not at the vehicle while it charges, and the charging operator "cannot detect" a disrupted charge without returning to it. *See* Exs. E2, E3.

b) Repeatedly Estimating the Time Remaining and Displaying It with the Level of Charge within the Vehicle

Certain limitations relate to repeatedly receiving a signal indicative of the level of charge, repeatedly estimating the amount of time remaining to charge from that signal, and repeatedly

displaying both the time remaining and the level of charge on a display mounted within the vehicle and within view of a user seated in the vehicle ('011 patent, claims 1, 2, and 11).

The estimation and its repetition are taught expressly. Boll computes the required remaining charging time from the desired and actual charge and the charging efficiency and drives a display unit with it. Fujita renews the charge current, temperature, and residual amount at intervals, recomputes $t=(CL-C)/(k \cdot I)$ on the renewed values, and repeats until the required amount is reached. Hotta '710 calculates the necessary charging period from the discharged energy and the predetermined charging current. Hayashi predicts the charging completion time and updates it on interrupt as the operative current limits change. Ozawa loops the computation and the display refresh until full charge is detected. The Magne Charge charger of the GM EV1 System displays an Estimated Time to Complete "to the nearest 1/10th of an hour" computed from a state of charge "determined by the vehicle," refreshed as that state of charge changes. *See* Exs. E1, E5, E7, E9, App. E.

Presenting both quantities on a display in the cabin, in the driver's view, was likewise conventional. The GM EV1 System's Display Steering Chime Module is a "centrally-mounted display" presenting information "in the driver's forward field of view—a key safety feature," and it displays the state of charge together with the "time to full charge." Boll places the display unit in the interior of the vehicle in proximity to the driver. Fujita places the alarm/display means, including a charge time display and a charging state display, on the instrument panel. Kelty '078 discloses an in-vehicle touch screen in the vehicle's interior compartment. The Tesla Roadster System presents charge status, battery level, and range on a Touch Screen in the cabin. *See* Exs. E1, E2, E9, E11, App. E.

A person of ordinary skill in the art would have valued repeatedly detecting the level of charge in order to optimize the recharge and avoid detriment to battery life, would have valued continuous monitoring as a means of detecting charging faults promptly, and would have understood that a driver benefits from regular updates because charging conditions change during a session and alter the time remaining. The combination is the use of a known technique to improve similar devices in the same way.

III. INVALIDITY UNDER 35 U.S.C. § 112 ¶ 1

Defendant alleges that the Asserted Claims are invalid under 35 U.S.C. § 112 ¶ 1 for failing to satisfy the written description and enablement requirements. Defendant reserves all rights to amend its Invalidity Contentions under 35 U.S.C. § 112 ¶ 1, including after the Asserted Claims are ultimately construed by the Court, in response to any interpretation of the Asserted Claims embodied in ChargeLogic's infringement positions, and/or to account for any changes in the law concerning invalidity under 35 U.S.C. § 112 ¶ 1. Defendant also reserves the right to provide additional explanation and/or argument for its Invalidity Contentions under Section 112 ¶ 1, including, for example, based on expert testimony. Defendant's contentions that the Asserted Claims are invalid under Section 112 are not admissions regarding the construction or scope of the claims of the Asserted Patents, or that any of the claims of the Asserted Patents are not anticipated or rendered obvious by any prior art. All of the below statements are by way of example only. Any item disclosed below with respect to any patent or claim may, as appropriate, be asserted as a defense against any other patent or claim that has a similar claim limitation and patent disclosure.

Pre-AIA 35 U.S.C. § 112 ¶ 1 requires that the specification contain a written description of the invention. "[T]he hallmark of written description is disclosure." *Boston Sci. Corp. v. Johnson & Johnson*, 647 F.3d 1353, 1361–62 (Fed. Cir. 2011) (citation omitted). The test for whether a specification adequately describes an invention is "whether the disclosure of the

application relied upon reasonably conveys to those skilled in the art that the inventor had possession of the claimed subject matter as of the filing date. . . . [T]he test requires an objective inquiry into the four corners of the specification from the perspective of a person of ordinary skill in the art . . . . [It] is a question of fact." *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc); *Boston Scientific*, 647 F.3d at 1362.

The enablement requirement of Section 112 ¶ 1 demands that the patent specification enable "those skilled in the art to make and use the full scope of the claimed invention without 'undue experimentation.'" *Genentech, Inc. v. Novo Nordisk A/S*, 108 F.3d 1361, 1365 (Fed. Cir. 1997) (quoting *In re Wright*, 999 F.2d 1557, 1561 (Fed. Cir. 1993)). "[T]he scope of the claims must be less than or equal to the scope of the enablement." *Nat'l Recovery Tech., Inc. v. Magnetic Separation Sys., Inc.*, 166 F.3d 1190, 1196 (Fed. Cir. 1999). In other words, the claims must be enabled over their entire claimed range. *See id.* (finding lack of enablement because the "claim [] [was] broader than the enablement as taught in the specification").

Defendant contends that the following Asserted Claims are invalid under pre-AIA 35 U.S.C. § 112 ¶ 1. Each Asserted Claim identified below (and, to the extent the additional limitations of a dependent claim do not cure the defect, each Asserted Claim that depends therefrom) is invalid under Section 112, ¶ 1 because the specification of the Asserted Patent fails to provide a sufficient written description and/or enabling disclosure. For each listed term or phrase, Defendant believes the term or phrase is invalid under pre-AIA 35 U.S.C. § 112 ¶ 1, as is any limitation including such terms or phrases, for the same reason(s).

Defendant further contends that ChargeLogic's apparent claim constructions render the asserted claims extremely broad in scope and well beyond the purported inventions described in the Asserted Patents. Based on a review of ChargeLogic's Infringement Contentions,

ChargeLogic is attempting to construe the Asserted Patents in an idiosyncratic manner that is entirely inconsistent with the written specifications and prosecution histories of the Asserted Patents as well as with the understanding of one of ordinary skill in the art at the time the applications that issued as the Asserted Patents were filed. These allegations are inconsistent with the plain language of the claims, the supporting description, and the prosecution history.

The Asserted Claims are invalid because the specifications of the Asserted Patents do not include sufficient written description of the purported inventions allegedly claimed in the Asserted Patents, and the manner and process of making and using them, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use any of the allegedly claimed inventions, pre-AIA 35 U.S.C. § 112 ¶ 1.

Moreover, the patent applications that issued as the Asserted Patents did not contain a written description of the purported invention sufficiently clear and complete to enable one of ordinary skill in the art to which the purported invention pertains to make and use the invention as claimed without undue experimentation. To the extent any of the Asserted Claims are found to cover one or more of the accused products identified in ChargeLogic's Infringement Contentions, such Asserted Claims are also invalid under pre-AIA 35 U.S.C. § 112 ¶ 1 because their full scope is not enabled by the specifications of the relevant Asserted Patents.

1. U.S. Patent No. 10,090,567

Defendant contends that the full scope of each Asserted Claim of the '567 patent was not described with particularity in the specification of the patent or in the earlier applications to which priority is claimed, so as to allow a person of ordinary skill in the art to recognize that the inventor invented what is claimed. To the extent the earlier applications do not support an Asserted Claim, that claim is not entitled to their filing dates; to the extent the patent's own specification does not

support the full scope of the claim, the claim is invalid. Accordingly, each Asserted Claim of the ’567 patent is invalid for lack of adequate written description and/or enablement under pre-AIA 35 U.S.C. § 112 ¶ 1, based at least on the following claim terms/phrases (and the broader claim limitations in which they appear):

- “a computer remote from the vehicle and vehicle charger”
- “a controller”
- “a user-manipulatable control”
- “automatically changes the supply of electric power to the vehicle battery”
- “a threshold cost of power”
- “responsive to at least one signal from the controller”
- “received by the controller in response to a user selecting a second user-manipulable control”
- “adapted for automatic establishment of communication with a second controller remote from the vehicle and the vehicle charger”
- “a level of charge of the battery”
- “an amount of time for the battery to be fully charged”

Furthermore, to the extent Defendant understands ChargeLogic’s deficient Infringement Contentions, ChargeLogic’s apparent interpretation of the Asserted Claims of the ’567 patent stretches the claims beyond their plain and ordinary meaning. Under these overly broad interpretations of the Asserted Claims, each of the Asserted Claims of the ’567 patent is invalid for lack of written description and/or is not enabled.

2. U.S. Patent Nos. 11,258,107 & 11,721,844

Defendant contends that the full scope of each Asserted Claim of the ’107 and ’844 patents was not described with particularity in the specification of the patent or in the earlier applications to which priority is claimed, so as to allow a person of ordinary skill in the art to recognize that

the inventor invented what is claimed. To the extent the earlier applications do not support an Asserted Claim, that claim is not entitled to their filing dates; to the extent the patent's own specification does not support the full scope of the claim, the claim is invalid. Accordingly, each Asserted Claim of the '107 and '844 patents is invalid for lack of adequate written description and/or enablement under pre-AIA 35 U.S.C. § 112 ¶ 1, based at least on the following claim terms/phrases (and the broader claim limitations in which they appear):

- "establishing wireless communication"
- "vehicular battery charger"
- "a portable controller of a user remote from the vehicle and the vehicular battery charger"
- "user-manipulatable control"
- "data indicative of a predetermined threshold level of charge"
- "the predetermined threshold level of charge being less than a full charge of the battery"
- "data indicative of the predetermined threshold level of charge"
- "during charging of the battery"
- "before the charging of the battery is complete"
- "during the charging of the battery and before charging of the battery is complete"
- "the signal includes data indicative of the level of charge of the battery"
- "a phone having a controller"
- "a transmitter"
- "battery charger controller"
- "the course of a charging session"
- "data indicative of a predetermined threshold level of charge"
- "the predetermined threshold level of charge being less than a full charge of the battery"
- "before the charging of the battery is complete"

- "notification is an indicator on a display"

Furthermore, to the extent Defendant understands ChargeLogic's deficient Infringement Contentions, ChargeLogic's apparent interpretation of the Asserted Claims of the '107 and '844 patents stretches the claims beyond their plain and ordinary meaning. Under these overly broad interpretations of the Asserted Claims, each of the Asserted Claims of the '107 and '844 patents is invalid for lack of written description and/or is not enabled.

3. U.S. Patent No. 11,508,996

Defendant contends that the full scope of each Asserted Claim of the '996 patent was not described with particularity in the specification of the patent or in the earlier applications to which priority is claimed, so as to allow a person of ordinary skill in the art to recognize that the inventor invented what is claimed. To the extent the earlier applications do not support an Asserted Claim, that claim is not entitled to their filing dates; to the extent the patent's own specification does not support the full scope of the claim, the claim is invalid. Accordingly, each Asserted Claim of the '996 patent is invalid for lack of adequate written description and/or enablement under pre-AIA 35 U.S.C. § 112 ¶ 1, based at least on the following claim terms/phrases (and the broader claim limitations in which they appear):

- "detecting a positional relationship between a first core on the vehicle and a second core in a location exterior to the vehicle, the first and second cores enabling induction charging of the battery"
- "detecting an alignment of the first core with respect to the second core within a predetermined threshold based at least in part on the positional relationship"
- "enabling a user control displayed on a display for controlling the induction charging of the battery"

Furthermore, to the extent Defendant understands ChargeLogic's deficient Infringement Contentions, ChargeLogic's apparent interpretation of the Asserted Claims of the '996 patent stretches the claims beyond their plain and ordinary meaning. Under these overly broad

interpretations of the Asserted Claims, each of the Asserted Claims of the ’996 patent is invalid for lack of written description and/or is not enabled.

4. U.S. Patent No. 11,909,010

Defendant contends that the full scope of each Asserted Claim of the ’010 patent was not described with particularity in the specification of the patent or in the earlier applications to which priority is claimed, so as to allow a person of ordinary skill in the art to recognize that the inventor invented what is claimed. To the extent the earlier applications do not support an Asserted Claim, that claim is not entitled to their filing dates; to the extent the patent’s own specification does not support the full scope of the claim, the claim is invalid. Accordingly, each Asserted Claim of the ’010 patent is invalid for lack of adequate written description and/or enablement under pre-AIA 35 U.S.C. § 112 ¶ 1, based at least on the following claim terms/phrases (and the broader claim limitations in which they appear):

- “display, during the active charging session but before starting charging of the battery according to the at least one condition, the amount of time upon the display”
- “repeatedly update the amount of time upon the display … including during the active charging session but before starting charging of the battery”
- “begin an active charging session of the battery based on a programmed manner of charge and at least one condition”
- “data indicative of a cost of power received from the second controller via the receiver”
- “a display mounted within the vehicle” and “a controller onboard the vehicle”

Furthermore, to the extent Defendant understands ChargeLogic’s deficient Infringement Contentions, ChargeLogic’s apparent interpretation of the Asserted Claims of the ’010 patent stretches the claims beyond their plain and ordinary meaning. Under these overly broad interpretations of the Asserted Claims, each of the Asserted Claims of the ’010 patent is invalid for lack of written description and/or is not enabled.

5. U.S. Patent No. 11,909,011

Defendant contends that the full scope of each Asserted Claim of the ’011 patent was not described with particularity in the specification of the patent or in the earlier applications to which priority is claimed, so as to allow a person of ordinary skill in the art to recognize that the inventor invented what is claimed. To the extent the earlier applications do not support an Asserted Claim, that claim is not entitled to their filing dates; to the extent the patent’s own specification does not support the full scope of the claim, the claim is invalid. Accordingly, each Asserted Claim of the ’011 patent is invalid for lack of adequate written description and/or enablement under pre-AIA 35 U.S.C. § 112 ¶ 1, based at least on the following claim terms/phrases (and the broader claim limitations in which they appear):

- “repeatedly estimate, based at least in part upon the at least one signal, an amount of time remaining to charge the battery”
- “on a display mounted within the vehicle and within view of a user seated in the vehicle”
- “display a time of day at which charging will be completed based at least in part upon the amount of time remaining to charge the battery”
- “receive data indicative of a cost of power and, based on the received data . . . , stop charging of the battery”
- “the second wireless signal including a power interruption notification”
- “the controller is further configured to display on a second display” and “the second display is electrically coupled to the portable controller”

Furthermore, to the extent Defendant understands ChargeLogic’s deficient Infringement Contentions, ChargeLogic’s apparent interpretation of the Asserted Claims of the ’011 patent stretches the claims beyond their plain and ordinary meaning. Under these overly broad interpretations of the Asserted Claims, each of the Asserted Claims of the ’011 patent is invalid for lack of written description and/or is not enabled.

IV. INVALIDITY UNDER 35 U.S.C. § 101

The Asserted Claims of the patents identified below are not patent-eligible under 35 U.S.C. § 101. Defendant reserves all rights to amend these Invalidity Contentions under 35 U.S.C. § 101, including after the Asserted Claims are ultimately construed by the Court, in response to any interpretation of the Asserted Claims embodied in ChargeLogic's infringement positions, and/or to account for any changes in the law concerning ineligibility under 35 U.S.C. § 101. Defendant also reserves the right to provide additional explanation and/or argument for these Invalidity Contentions under 35 U.S.C. § 101, including, for example, based on expert testimony. In particular, the abstract ideas set forth below are exemplary and based on Defendant's current understanding of the Asserted Patents. For each challenged claim, Defendant identifies below (1) the abstract idea to which the claim is directed, (2) the claim elements that Defendant contends are well-understood, routine, and conventional, and (3) the prior art supporting that contention. The prior art supporting Defendant's Step Two contentions is the prior art identified in Section II and charted in the accompanying Exhibits and Appendices A–E; Defendant incorporates those disclosures here rather than duplicating them. Defendant treats the independent claims discussed below as representative of the Asserted Claims of each patent, because the dependent Asserted Claims add only conventional components, generic categories of data, or further routine steps of the same abstract processes. Defendant reserves the right to address any Asserted Claim separately should ChargeLogic contend that any dependent claim is separately eligible.

The governing framework for patent-eligible subject matter under 35 U.S.C. § 101 applies to each of the Asserted Patents. The Supreme Court has articulated a two-step framework for determining patent eligibility. *Alice Corp. v. CLS Bank Int'l*, 573 U.S. 208, 217–18 (2014). At Step One, the court determines "whether the claims at issue are directed to" a "patent-ineligible concept[]," such as "laws of nature, natural phenomena, and abstract ideas." *Id.* This first step of

the inquiry has been "described . . . as looking at the 'focus' of the claims," or "their 'character as a whole.'" *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016).

If the claims are directed to one of those ineligible concepts, the Step Two inquiry asks whether the claims contain an "inventive concept," or "an element or combination of elements that is sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself." *Alice*, 573 U.S. at 218 (quoting *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 72–73, 89 (2012)) (internal quotation marks omitted). At Step Two, "well-understood, routine, conventional activit[ies]" are insufficient to confer an inventive concept. *Mayo*, 566 U.S. at 73. In the realm of computer-implemented inventions, merely adding "purely functional and generic" components does not "transform an abstract idea into a patent-eligible invention" because "[n]early every computer will include [such components] capable of performing the basic . . . functions required by the . . . claims." *Alice*, 573 U.S. at 226. The Asserted Claims fail to meet that standard.

A. U.S. Patent No. 10,090,567

Step One. The claims are directed towards an abstract idea, *e.g.*, deciding when to charge a battery based on time and cost, *e.g.*, managing or scheduling a resource according to price and timing. Courts have repeatedly found that organizing activity around cost/price thresholds and time-of-day scheduling is the kind of "fundamental economic practice" or "method of organizing human activity" that falls in the abstract bucket. *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353–54 (Fed. Cir. 2016) (collecting information, analyzing it, and presenting the results); *Two-Way Media Ltd. v. Comcast Cable Commc'ns LLC*, 874 F.3d 1329 (Fed. Cir. 2017).

Step Two. There is no inventive concept recited in the claims that would transform the claims away from the abstract idea. The claims merely require conventional computer components operating with their basic functions (*e.g.*, a controller, a display, a user-manipulatable control, a

transmitter and/or a receiver, an electrical power cord, and a remote computer having a screen). This is nothing more than an abstract idea. *Berkheimer v. HP Inc*., 881 F.3d 1360, 1370 (Fed. Cir. 2018) ("The limitations amount to no more than performing the abstract idea . . . with conventional computer components."); *ChargePoint v. SemaConnect, Inc.*, 920 F.3d 759, 774–75 (Fed. Cir. 2019) ("Here, the claims do nothing to improve how charging stations function; instead, the claims merely add generic networking capabilities to those charging stations and say 'apply it.'"); *see* Exs. A1–A24 and Appendix A.

Defendant identifies the following elements of the Asserted Claims of the '567 patent as well-understood, routine, and conventional as of the asserted priority date, whether considered individually or as an ordered combination:

- "a controller"; "a second controller" (claims 8, 11);
- "a vehicle" (claim 8);
- "a display" (claims 8, 12, 13);
- "a user-manipulatable control" (claim 8);
- "vehicle battery" (claim 8);
- "vehicle charger" (claim 8);
- "a screen" (claim 8);
- "a computer remote from the vehicle and vehicle charger" (claim 8);
- "a console" (claim 9); and
- "a transmitter and a receiver" (claim 10).

The prior art identified in Section II establishes that each of these elements was well-understood, routine, and conventional. *See* Exs.A1–A24 and Appendix A.

B. U.S. Patent Nos. 11,258,107 & 11,721,844

Step One. The Asserted Claims of the ’107 and ’844 patents are directed to the abstract idea of collecting information about an ongoing process, comparing that information to a threshold selected by a user, and sending a notification when the threshold is reached. That is a classic information-collection-and-notification process, and the Federal Circuit has repeatedly held such claims abstract. *See Intellectual Ventures I LLC v. Capital One Bank (USA)*, 792 F.3d 1363, 1367–70 (Fed. Cir. 2015); *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353–54 (Fed. Cir. 2016) (collecting information, analyzing it, and presenting the results). Automating the continuation or stopping of charging based on a user-set limit and notifying the user when their limit is reached is routine automation directed to an abstract idea. *Id.*

Step Two. There is no inventive concept. Defendant identifies the following elements of the Asserted Claims of the ’107 patent as well-understood, routine, and conventional as of the asserted priority date, whether considered individually or as an ordered combination:

- “a vehicular battery charger” (claim 6);
- “a controller” (claim 6);
- “a portable controller” (claim 6);
- “a vehicle” (claim 6);
- “a user remote” (claim 6);
- “a user-manipulatable control” (claims 6, 10);
- “an alert” (claim 6);
- “a phone” (claim 10);
- “an electrical power cord” (claim 10); and
- “a transmitter” (claim 10).

Defendant identifies the following elements of the Asserted Claims of the ’844 patent as well-understood, routine, and conventional as of the asserted priority date, whether considered individually or as an ordered combination:

- “a controller” (claim 1);
- “a battery charger” (claims 1, 9);
- “a transmitter” (claim 1);
- “a battery” (claim 1);
- “a vehicle” (claims 1, 9);
- “a portable controller” (claims 2, 11);
- “a notification” (claim 3);
- “signal” (claims 1, 3, 9, 11);
- “a display” (claim 4);
- “an e-mail” (claim 12);
- “a text” (claim 12); and
- “a user-manipulatable control” (claims 8, 13).

The prior art identified in Section II establishes the conventionality of these elements. *See* Exs. B1–B12 and Appendix B.

C. U.S. Patent No. 11,508,996

Step One. The Asserted Claim of the ’996 patent is directed to the abstract idea of gathering information about the relative position of two objects, comparing that information to a threshold, and making an option available to a user when the threshold is satisfied. Every step is the collection of information, the comparison of collected information against a threshold, or the conditional presentation of information to a user, and the Federal Circuit has repeatedly held such claims abstract. *See Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353–54 (Fed. Cir.

2016) (collecting information, analyzing it, and presenting the results); *Intellectual Ventures I LLC v. Capital One Bank (USA)*, 792 F.3d 1363, 1367–70 (Fed. Cir. 2015) (tracking an activity against a threshold and notifying the user when the threshold is reached); *Interval Licensing LLC v. AOL, Inc.*, 896 F.3d 1335, 1344–45 (Fed. Cir. 2018) (presenting information to a user is abstract); *Two-Way Media Ltd. v. Comcast Cable Commc'ns, LLC*, 874 F.3d 1329 (Fed. Cir. 2017).

The Asserted Claim may equally be characterized as directed to the longstanding practice of confirming that a physical precondition has been satisfied before permitting an operation to begin — a method of organizing human activity practiced by attendants, operators, and inspectors long before the '996 patent. An attendant who observes a vehicle positioned over a charging pad, judges whether it is close enough, and then permits the driver to begin charging performs the same process claim 15 recites. Processes that can be performed in the human mind or by a human observer are abstract, and automating such a process on generic equipment does not confer eligibility. *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1372–73 (Fed. Cir. 2011); *Univ. of Fla. Research Found., Inc. v. Gen. Elec. Co.*, 916 F.3d 1363, 1367–68 (Fed. Cir. 2019) (automation of a pen-and-paper methodology is abstract); *Ericsson Inc. v. TCL Commc'n Tech. Holdings, Ltd.*, 955 F.3d 1317, 1326–27 (Fed. Cir. 2020) (controlling access to a resource according to whether a condition is met is abstract).

Step Two. There is no inventive concept. Defendant identifies the following elements of the Asserted Claim of the '996 patent as well-understood, routine, and conventional as of the asserted priority date, whether considered individually or as an ordered combination:

- "a vehicle" (claim 15);
- "a battery" (claim 15);
- "a first core on the vehicle" (claim 15);
- "a second core in a location exterior to the vehicle" (claim 15);

- "alignment" (claim 15)
- "induction charging of the battery" (claim 15);
- "induction charging" (claim 15);
- "a display" (claim 15); and
- "a user control" (claim 15).

The prior art identified in Section II establishes that each of these elements was well-understood, routine, and conventional. Induction charging of electric vehicles by means of a vehicle-mounted core and a core exterior to the vehicle — including detection of the relative position of the two cores, comparison of that position against an alignment tolerance, and driver-facing indication and control conditioned on that comparison — was standardized, published, and commercially deployed years before the asserted priority date. *See* Exs. C1–C8 and Appendix C.

D. U.S. Patent No. 11,909,010

Step One. The Asserted Claims of the '010 patent are directed to the abstract idea of calculating how long a process will take, displaying the result, and repeatedly updating that display. Stated in the terms of the claims, a session is begun "based on a programmed manner of charge and at least one condition"; "an amount of time required to charge the battery" is calculated; the amount of time is displayed; and the displayed amount of time is "repeatedly update[d]." Calculation, display, and updating of an estimate are quintessential abstract processes. *See Elec. Power Grp.*, 830 F.3d at 1353–54; *Interval Licensing LLC v. AOL, Inc.*, 896 F.3d 1335, 1344–45 (Fed. Cir. 2018) (displaying information in an unobtrusive manner is abstract); *Parker v. Flook*, 437 U.S. 584, 594–95 (1978) (calculating and updating an alarm limit is not eligible subject matter); *Gottschalk v. Benson*, 409 U.S. 63, 71–72 (1972).

The claims do not recite how the calculation is performed, and they specify no particular interval, trigger, or technique for the repeated updating. The dependent Asserted Claims add only

abstract or conventional subject matter: claims 2–4 and 10 add generic communication with "a second controller remote from the vehicle," *see Two-Way Media*, 874 F.3d at 1337; claims 5, 11, and 19 add supplying power based on "data indicative of a cost of power," which is the fundamental economic practice of buying a commodity when its price is favorable, *see OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1362–63 (Fed. Cir. 2015); claims 6, 12, and 16 add displaying "a level of charge"; and claims 7–8, 13–14, and 17–18 add receiving a time of day through a generic user interface.

Step Two. There is no inventive concept. Defendant identifies the following elements as well-understood, routine, and conventional as of the asserted priority date, whether considered individually or as an ordered combination:

- "a display mounted within the vehicle" (claims 1, 9, 15);
- "a controller" or "a second controller" (claims 1, 2, 9, 15);
- "a receiver" (claims 2, 15);
- "a user interface" (claims 7, 17, 20);
- "supplying . . . power to the battery of the vehicle to charge the battery" (claim 9) and changing "a charging state" by increasing, decreasing, starting, or stopping charging (claim 15).

The prior art identified in Section II establishes the conventionality of these elements. *See* Exs. D1-D11 and Appendix D.

E. U.S. Patent No. 11,909,011

Step One. The Asserted Claims of the '011 patent are directed to the abstract idea of receiving an instruction from a remote device, delivering a resource in response, and then repeatedly gathering, estimating, and displaying status information about that delivery. Stated in the terms of the claims, wireless communication is established with a portable controller; a wireless signal is received; electricity is supplied in response; signals indicative of the level of charge are

repeatedly received; an amount of time remaining is repeatedly estimated; and the estimate and the charge level are repeatedly displayed. Each step is the collection, analysis, transmission, or display of information. *See Elec. Power Grp.*, 830 F.3d at 1353–54; *Two-Way Media*, 874 F.3d at 1337 (sending, directing, monitoring, and recording information); *Interval Licensing*, 896 F.3d at 1344–45. As with the '010 patent, the claims recite no algorithm for the estimation and no interval or trigger for the repetition; they claim the result.

The dependent Asserted Claims add only abstract or conventional subject matter: claim 3 adds displaying a projected completion time of day, which is arithmetic performed on the estimate; claim 4 adds stopping charging on a second wireless signal; claim 5 adds stopping charging based on "data indicative of a cost of power," the same fundamental economic practice addressed above, *see OIP Techs.*, 788 F.3d at 1362–63; claims 7–8 add a time of day carried in the signal; claim 10 adds that the portable controller is "defined at least in part by a phone"; claims 11–12 add a second display; and claim 19 adds "a power interruption notification," which is generic alerting, *see Intellectual Ventures I v. Capital One Bank*, 792 F.3d at 1367–70.

Step Two. There is no inventive concept. Defendant identifies the following elements as well-understood, routine, and conventional as of the asserted priority date, whether considered individually or as an ordered combination:

- "a controller" (claims 1, 6);
- "a portable controller of a user remote from the vehicle and the vehicular battery charger" (claim 1), "defined at least in part by a phone" (claim 10);
- "a display" (claims 1, 2), "a second display" (claims 11–12);
- "wireless communication," "receive a wireless signal," and "transmit a second wireless signal" (claims 1, 4, 19);
- "supply electricity from a source of power to the battery of the vehicle with the vehicular battery charger" (claim 1).

The prior art identified in Section II establishes the conventionality of these elements. *See* Exs. E1–E11 and Appendix E.

Defendant's contentions under 35 U.S.C. § 101 are made in the alternative to, and without prejudice to, its contentions under 35 U.S.C. §§ 102, 103, and 112, and are based on the claim scope ChargeLogic appears to assert. Nothing in this Section is an admission regarding the proper construction of any claim term or regarding whether any accused product or service practices any Asserted Claim.

V. ACCOMPANYING PRODUCTION

In accordance with the Standing Order and the Scheduling Order, Defendant will produce or make available for inspection technical documents, including software where applicable, sufficient to show the operation of the Accused Products identified by ChargeLogic in its Infringement Contentions, to the extent Defendant is able to understand ChargeLogic's infringement allegations. Defendant will produce any additional documents uncovered during discovery, including through third-party subpoenas.

Pursuant to the Standing Order, Defendant is producing a copy of each prior art item identified in its Invalidity Contentions, including source code for prior art references to the extent it is in Defendant's possession, custody, or control.

Dated: September 29, 2026

Respectfully submitted,

/s/ Brian A. Rosenthal
Brian A. Rosenthal (NY Bar No. 3961380)
Katherine Q. Dominguez (NY Bar No. 4741237)
Josh A. Krevitt (admitted pro hac vice)
Zak Khan (admitted pro hac vice)
GIBSON, DUNN & CRUTCHER LLP
200 Park Avenue
New York, NY 10166-0193
Telephone: 212.351.4000
Facsimile: 212.351.4035
BRosenthal@gibsondunn.com
KDominguez@gibsondunn.com
JKrevitt@gibsondunn.com
ZKhan@gibsondunn.com

Albert Suarez IV (TX Bar No. 24113094)
Y. Audrey Yang (TX Bar No. 24118593)
GIBSON, DUNN & CRUTCHER LLP
2001 Ross Avenue, Suite 2100
Dallas, TX 75201
Telephone: 214.698.3100
Facsimile: 214.571.2900
ASuarez@gibsondunn.com
AYang@gibsondunn.com

Shuo Josh Zhang (admitted pro hac vice)
GIBSON, DUNN & CRUTCHER LLP
1700 M Street, N.W.
Washington, D.C. 20036-4504
Telephone: 202.955.8270
Facsimile: 202.831.6073
SZhang@gibsondunn.com

NoahLani Litwinsella (admitted pro hac vice)
GIBSON, DUNN & CRUTCHER LLP
1900 Lawrence St., Suite 3000
Denver, CO 80202
Telephone: 303.298.5715
Facsimile: 303.313.2885
NLitwinsella@gibsondunn.com

Jun Zheng (TX Bar No. 24102681)
TESLA, INC.
1 Tesla Rd Austin, TX 78725
Telephone: 512.417.3528
zhengjun@tesla.com

Terry W. Ahearn (CA Bar No. 216543)
A. Louis Dorny (CA Bar No. 212054)
TESLA, INC.
1501 Page Mill Road, Building 6
Palo Alto, CA 94304
Telephone: 408.204.7384
tahearn@tesla.com
ldorny@tesla.com

Barry K. Shelton (TX Bar No. 24055029)
SHELTON COBURN LLP
311 Ranch Road 620, Suite 205
Austin, TX 78734
Telephone: 512.263.2165
Facsimile: 512.263.2166
BShelton@sheltoncoburn.com

Counsel for Defendant Tesla, Inc.

CERTIFICATE OF SERVICE

I hereby certify that on September 29, 2026, the foregoing was served upon all counsel of record who have consented to electronic service.

/s/ Brian A. Rosenthal
Brian A. Rosenthal