

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

EPAS ID: PAT7665917

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
CONVEYING PARTY DATA	
Name	Execution Date
QUALCOMM INCORPORATED	02/01/2019
RECEIVING PARTY DATA	
Name:	WITRICITY CORPORATION
Street Address:	57 WATER STREET
City:	WATERTOWN
State/Country:	MASSACHUSETTS
Postal Code:	02472
PROPERTY NUMBERS Total: 1	
Property Type	Number
Application Number:	18059306
CORRESPONDENCE DATA	
Fax Number:	(208)975-6667
<i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.</i>	
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ATTORNEY DOCKET NUMBER:	P0153USWCON5
NAME OF SUBMITTER:	BRITTAN A. GLAD, REG#61,090
SIGNATURE:	/Brittan A. Glad/
DATE SIGNED:	11/29/2022
Total Attachments: 95	
source=20221129_Executed_Assignment_Q_to_WiTricity_P0153USWCON5#page1.tif	
source=20221129_Executed_Assignment_Q_to_WiTricity_P0153USWCON5#page2.tif	
source=20221129_Executed_Assignment_Q_to_WiTricity_P0153USWCON5#page3.tif	
source=20221129_Executed_Assignment_Q_to_WiTricity_P0153USWCON5#page4.tif	
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Patent Assignment

THIS PATENT ASSIGNMENT (this "Assignment") is made effective as of 1 February, 2019 (the "Effective Date") between Qualcomm Incorporated, a Delaware corporation, having a place of business located at 5775 Morehouse Drive, San Diego, CA 92121 U.S.A. ("Qualcomm"), and WiTricity Corporation, a Delaware corporation, having a place of business located at 57 Water Street, Watertown, MA 02472 ("Assignee").

WHEREAS, Qualcomm and Assignee and other Qualcomm affiliated entities have entered into an Asset Purchase Agreement dated 1 February, 2019 (the "APA"), in which, among other things, Qualcomm assigned to Assignee the Assigned Patents (as defined below); and

WHEREAS, the execution and delivery of this Assignment is a closing condition of the transaction contemplated by the APA.

For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties agree as follows:

1. **Assignment.** Subject to all existing encumbrances and rights granted prior to the Effective Date all as more particularly described in the APA, Qualcomm hereby irrevocably sells, assigns, transfers, and conveys to Assignee: (a) the issued patents and patent applications identified in the attached Attachment 1 hereto, together with any patent issuing on any such patent application identified in the attached Attachment 1 hereto, including any rights of priority in and to any of the foregoing patent applications and patents; (b) each patent and patent application throughout the world, directly or through one or more applications, that derives priority from any of the patent applications and patents described in clause (a) above, including all extensions, renewals, reissues, reexaminations, divisionals, substitutions, provisionals, continuations, continuations-in-part, conversions, prolongations, continued examinations, continued prosecution applications, and domestic and foreign counterparts that derive priority from any of the patent applications and patents described in clause (a) above, and each patent issuing on any of the foregoing items; and (c) each patent or patent application that is referenced by a terminal disclaimer filed in connection with any of the patent applications or patents identified in clause (a) or clause (b) above (the "Assigned Patents"). Notwithstanding anything to the contrary, the Assigned Patents do not include any patents or patent applications that were not assigned to Assignee pursuant to the APA, including without limitation those patents and patent applications described in the APA as being excluded from the Assigned Patents. In addition and for clarity, no action taken by Assignee or any other person or entity after the Effective Date shall result in any patent or patent application that exists as of the Effective Date and not included within clause (c) above as of the Effective Date being an Assigned Patent by reason of any such action.

2. **Patent Office Grants.** Qualcomm hereby authorizes the respective patent office or governmental agency in each jurisdiction to issue any and all patents, certificates of invention, utility models or other governmental grants or issuances that may be granted upon any of the Assigned Patents in the name of Assignee, as the assignee to the entire interest therein.

3. **Prosecution and Enforcement.** Assignee will be solely responsible for the filing, prosecution, and maintenance of each of the Assigned Patents, including the payment of all fees and costs relating thereto. Assignee will be solely responsible for the defense of the Assigned Patents. For clarity, Assignee is not obligated to file, prosecute, maintain, enforce or defend any of the Assigned Patents.

4. **Disclaimer of Warranties.** Qualcomm makes no representations or warranties under this Assignment whether express or implied, with respect to the Assigned Patents. Nothing in this

Section 4 shall amend, limit or otherwise modify any express representations or warranties made under the APA.

5. **Governing Law.** This Assignment, the rights and obligations of the parties under this Assignment, and any claim or controversy directly or indirectly based upon, arising out of or related to, this Assignment or the transactions contemplated by this Assignment (whether based upon contract, tort or any other theory), including all matters of construction, validity and performance, shall be governed by and construed in accordance with the laws of the State of Delaware, determined without regard to any conflict of law provisions that would require the application of the law of any other jurisdiction.

6. **Successors and Assigns.** This Assignment shall be binding upon and inure to the benefit of the parties and their respective successors and assigns.

7. **Miscellaneous.** Qualcomm makes no representations or warranties in this Assignment. Any rule of construction to the effect that ambiguities are to be resolved against the drafting party will not be applied in the construction or interpretation of this Assignment. The words “include”, “including” and variations thereof will be deemed to be followed by the words “without limitation”. The use of “or” will not be deemed to be exclusive. This Assignment may be executed in counterparts, each of which when executed will be deemed to be an original but all of which taken together will constitute one and the same agreement. In the event of a conflict between the terms and conditions in this Assignment and the APA, the terms and conditions in the APA shall control.

[Signature page follows]

IN WITNESS WHEREOF, I hereunto set my hand this 1 day of February, 2019.

Qualcomm Incorporated

By: [Signature]

Printed Name: Raymond B Hon

Title: VP, Patent Counsel

ACKNOWLEDGMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California

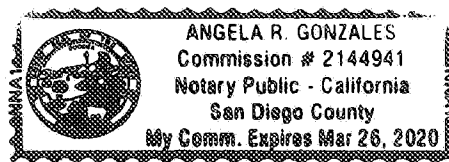
County of San Diego)

On 1 February 2019 before me, Angela R. Gonzales, Notary Public personally appeared Raymond B Hon, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature [Signature] (Seal)



IN WITNESS WHEREOF, acknowledged and accepted on this _____ day of _____, 2019.

WiTricity Corporation

By: _____

Printed Name: Alex Gruzen

Title: Chief Executive Officer

SIGNATURE PAGE TO PATENT ASSIGNMENT

IN WITNESS WHEREOF, I hereunto set my hand this ____ day of _____, 2019.

Qualcomm Incorporated

By: _____

Printed Name: _____

Title: _____

ACKNOWLEDGMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California

County of _____)

On _____ before me,

(Insert name and title of the officer)

personally appeared _____, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____ (Seal)

IN WITNESS WHEREOF, acknowledged and accepted on this ____ day of _____, 2019.

WiTricity Corporation

By: _____

Printed Name: Alex Gruzen

Title: Chief Executive Officer

Attachment 1

List of Assigned Patents

See attached.

Confidential

092393KK02D1	092393IDF	Republic of Korea	Wireless power apparatus and methods	10-2012-7015407	10-1312193	9/17/2013	Granted	Granted
092393KR02D1D1	092393IDF	Republic of Korea	Wireless power apparatus and methods	10-2013-7012685			Inactive	Abandoned
092393KR03D1D1	092393IDF	Republic of Korea	Wireless power apparatus and methods	10-2014-7015215			Inactive	Abandoned
092393KR04	092393IDF	Republic of Korea	Wireless power apparatus and methods	10-2013-7032754	10-1375583	3/13/2014	Granted	Granted
092393P1	092393IDF	United States	Wireless power apparatus and methods	60/904,523			Inactive	Expired
092393W2	092393IDF	Patent Cooperation Treaty	Wireless power apparatus and methods	PCT/US2008/055600			Inactive	Expired
092402	092402IDF	United States	SYSTEM AND METHOD FOR MAGNETIC POWER TRANSFER	11/233,441	9,614,526	12/24/2015	Granted	Granted
092402C1	092402IDF	United States	Biological effects of magnetic power transfer	13/934,324			Inactive	Abandoned
092402CN	092402IDF	China P.R.	Maximizing power yield from wireless power magnetic resonators	200850107644.3			Inactive	Abandoned
092402CN01	092402IDF	China P.R.	Maximizing power yield from wireless power magnetic resonators	301710342795.1			Filed	Application
092402DE	092402IDF	Germany	Maximizing power yield from wireless power magnetic resonators	60208051001.2	EP2198477	7/5/2017	Granted	Granted
092402EP	092402IDF	European Patent Convention	Maximizing power yield from wireless power magnetic resonators	08833129.4	EP2198477	7/5/2017	Granted	Granted
092402EPD1	092402IDF	European Patent Convention	Maximizing power yield from wireless power magnetic resonators	17179015.7			Filed	Application
092402FR	092402IDF	France	Maximizing power yield from wireless power magnetic resonators	08833129.4	EP2198477	7/5/2017	Granted	Granted
092402GB	092402IDF	Great Britain	Maximizing power yield from wireless power magnetic resonators	08833129.4	EP2198477	7/5/2017	Granted	Granted
092402IN	092402IDF	India	Maximizing power yield from wireless power magnetic resonators	1858/DELNP/2010	288188	10/9/2017	Granted	Granted

10/1/17

092402IND1	092402IDF	India	AN APPARATUS AND A METHOD OF TRANSMITTING POWER VIA A WIRELESS FIELD	201518036720			Filed	Application
092402JP	092402IDF	Japan	Maximizing power yield from wireless power magnetic resonators	2010-325979			Inactive	Abandoned
092402JP01	092402IDF	Japan	Maximizing power yield from wireless power magnetic resonators	2013-121729	5881835	2/26/2016	Granted	Granted
092402KR	092402IDF	Republic of Korea	Maximizing power yield from wireless power magnetic resonators	10-2010-7028432			Inactive	Abandoned
092402KR01	092402IDF	Republic of Korea	Maximizing power yield from wireless power magnetic resonators	10-2013-7002392	10-1502248	3/6/2015	Granted	Granted
092402KR02	092402IDF	Republic of Korea	Maximizing power yield from wireless power magnetic resonators	10-2013-7002393	10-1515727	4/21/2015	Granted	Granted
092402P1	092402IDF	United States Patent Cooperation Treaty	Constraints imposed by field strength limits	50/973,711			Inactive	Expired
092402WO	092402IDF		Maximizing power yield from wireless power magnetic resonators	PCT/US2008/076959			Inactive	Expired
092409	092409IDF	United States	Antennas and their coupling characteristics for wireless power transfer via magnetic coupling	12/354,033	8,344,553	1/1/2013	Granted	Granted
092409C1	092409IDF	United States	Antennas and their coupling characteristics for wireless power transfer via magnetic coupling	12/354,033	8,710,761	4/29/2014	Granted	Granted
092409F1	092409IDF	United States	Antennas and their coupling characteristics for wireless power transfer via magnetic coupling	91/032,061			Inactive	Expired
092412	092412IDF	United States	System and method for efficient wireless power transfer to devices located on and outside a charging base	12/427,318			Inactive	Abandoned

Confidential

092412C1	092412IDF	United States	SYSTEM AND METHOD FOR EFFICIENT WIRELESS POWER TRANSFER TO DEVICES LOCATED ON AND OUTSIDE A CHARGING BASE	13/913,036	9,450,456	9/20/2016	Granted	Granted
092412C7	092412IDF	United States	SHORT RANGE EFFICIENT WIRELESS POWER TRANSFER INCLUDING A CHARGING BASE TRANSMITTER BUILT INTO A DESKTOP COMPONENT AND A POWER RELAY INTEGRATED INTO A DESKTOP	14/163,704	9,979,230	5/22/2018	Granted	Granted
092412CN	092412IDF	China P.R.	Short range efficient wireless power transfer	200980113946.6	21,203,960/113946	2/24/2016	Granted	Granted
092412CND1	092412IDF	China P.R.	Short range efficient wireless power transfer	201610034618.9		Filed	Application	Application
092412EP	092412IDF	European Patent Convention	Short range efficient wireless power transfer	09735888.1		Filed	Application	Application
092412IN	092412IDF	India	Short range efficient wireless power transfer	7039/DELNP/2010		Filed	Application	Application
092412JP	092412IDF	Japan	Short range efficient wireless power transfer	2011-506391		Inactive	Abandoned	Abandoned
092412JPD1	092412IDF	Japan	Short range efficient wireless power transfer	2014-205087	5882431	2/12/2016	Granted	Granted
092412JPD101	092412IDF	Japan	Short range efficient wireless power transfer	2016-019021		Inactive	Withdrawn	Withdrawn
092412KR	092412IDF	Republic of Korea	Short range efficient wireless power transfer	10-2010-7026014	10-1247384	3/19/2013	Granted	Granted
092412KRD1	092412IDF	Republic of Korea	Short range efficient wireless power transfer	10-2012-7032797		Inactive	Abandoned	Abandoned
092412KRD1D1	092412IDF	Republic of Korea	Short range efficient wireless power transfer	10-2013-7024411	10-1572743	11/73/2015	Granted	Granted
092412KRD1D2	092412IDF	Republic of Korea	Short range efficient wireless power transfer	10-2014-7000895	10-1588636	1/22/2016	Granted	Granted
092412P1	092412IDF	United States Patent Cooperation Treaty	Short range efficient wireless power transfer	61/046,757		Inactive	Expired	Expired
092412WO	092412IDF	Patent Cooperation Treaty	Short range efficient wireless power transfer	PCT/US2009/041234		Inactive	Expired	Expired

10/10/10

101328WQ	101328WQ	Patent Cooperation Treaty	Wireless high power transfer under regulatory constraints	PCT/US2012/039975				Active	Expired
101328	101328IDF	United States	Wireless power transmission in electric vehicles	13/082,211	9,561,730	2/7/2017	Granted		Granted
101328C1	101328IDF	United States	Wireless power transmission in electric vehicles	15/424,640			Filed		Application
101328C4	101328IDF	China P.R.	Wireless power transmission in electric vehicles	201180018015.5			Inactive		Abandoned
101328CND1	101328IDF	China P.R.	Wireless power transmission in electric vehicles	201410677953.1	ZL201410677953	5/3/2017	Granted		Granted
101328EP	101328IDF	European Patent Convention	Wireless power transmission in electric vehicles	11749365.2			Inactive		Abandoned
101328EPD1	101328IDF	European Patent Convention	Wireless power transmission in electric vehicles	15130222.5			Filed		Application
101328IN	101328IDF	India	Wireless power transmission in electric vehicles	8812/CHENP/2017			Filed		Application
101328IND1	101328IDF	India	Wireless power transmission in electric vehicles	201348043855			Filed		Application
101328JP	101328IDF	Japan	Wireless power transmission in electric vehicles	2013-504008			Filed		Application - Instructed to lapse via inaction
101328JPD1	101328IDF	Japan	Wireless power transmission in electric vehicles	2015-136660	6140220	5/12/2017	Granted		Granted
101328KR	101328IDF	Republic of Korea	Wireless power transmission in electric vehicles	10-2012-7028938	10-1923741	11/23/2018	Granted		Granted
101328P1	101328IDF	United States	Wireless power transmission in electric vehicles background	51/322,196			Inactive		Expired
101328TW	101328IDF	Taiwan	Wireless power transmission in electric vehicles background	100712238			Inactive		Abandoned
101328WQ	101328IDF	Patent Cooperation Treaty	Wireless power transmission in electric vehicles	PCT/US2011/031850			Inactive		Expired
101328	101328IDF	United States	Wireless power antenna alignment system for vehicles	13/040,229			Filed		Application
101328C1	101328IDF	China P.R.	Wireless power antenna alignment system for vehicles	2011800180078.2	ZL2011800180078	1/25/2016	Granted		Granted

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PATENT
REEL: 062012 FRAME: 0878

111554DE	111554IDF	Germany	Antenna alignment and vehicle guidance for wireless charging of electric vehicles	602012044166.2	EP2697910	3/21/2018	Granted	Granted
111554EP	111554IDF	European Patent Convention	Antenna alignment and vehicle guidance for wireless charging of electric vehicles	12716164.4	EP2697910	3/21/2018	Granted	Granted
111554FR	111554IDF	France	Antenna alignment and vehicle guidance for wireless charging of electric vehicles	12716164.4	EP2697910	3/21/2018	Granted	Granted
111554GB	111554IDF	Great Britain	Antenna alignment and vehicle guidance for wireless charging of electric vehicles	12716164.4	EP2697910	3/21/2018	Granted	Granted
111554IN	111554IDF	India	Antenna alignment and vehicle guidance for wireless charging of electric vehicles	7962/CHEMP/2013		Filed	Application	
111554JP	111554IDF	Japan	Antenna alignment and vehicle guidance for wireless charging of electric vehicles	2014-505216	6019103	10/7/2016	Granted	Granted
111554KR	111554IDF	Republic of Korea	Antenna alignment and vehicle guidance for wireless charging of electric vehicles	10-2013-7029272	10-1917301	11/6/2018	Granted	Granted
111554PT	111554IDF	United States	Antenna alignment and vehicle guidance for wireless charging of electric vehicles	61/474,922		Inactive	Expired	
111554WO	111554IDF	Patent Cooperation Treaty	Antenna alignment and vehicle guidance for wireless charging of electric vehicles	PCT/US2012/032926		Inactive	Expired	
120804PE	120804IDF	United States	Wireless power charging and method of construction	617613378		Inactive	Expired	
120804PZ	120804IDF	United States	Wireless power transfer apparatus and method of manufacture	617613382		Inactive	Expired	
120804P1	120804IDF	United States	Wireless power charging and method of construction	617613390		Inactive	Expired	
120804P4	120804IDF	United States	Wireless power transfer device and method of manufacture	617613418		Inactive	Expired	
120804P5	120804IDF	United States	Magnetically permeable structures	617613353		Inactive	Expired	
120804P11	120804IDF	United States	Wireless power charging and method of construction	137669384	9,653,316	5/16/2017	Granted	Granted

Confidential

1208284WC	1208284DF	United States	Wireless power transfer device and method of manufacture	PCT/US2013/029285				10/11/2015	Granted	Expired
1208284US	1208284DF	United States	Magnetically permeable structures	13/571,726	9,180,325			10/11/2015	Granted	Granted
1208284CN	1208284DF	China P.R.	Magnetically permeable structures	20138004530	22/01138704530			4/29/2018	Granted	Granted
1208284JPN	1208284DF	United States	Magnetically permeable structures	10/875,511	9,977,434			5/15/2013	Granted	Granted
1208284JPN	1208284DF	European Patent Convention	METHODS OF FORMING MAGNETICALLY PERMEABLE STRUCTURES	13/740,133				Filed	Allowed	
1208284JPN	1208284DF	Japan	Magnetically permeable structures	6301154607/2014				Filed	Application	
1208284JPN	1208284DF	Republic of Korea	Magnetically permeable structures	2015-501205	61,045,75			12/9/2017	Granted	Granted
1208284JPN	1208284DF	Patent Cooperation Treaty	Magnetically permeable structures	10/2014-7029065				Filed	Application	
1208284JPN	1208284DF	Patent Cooperation Treaty	Magnetically permeable structures	PCT/JP2013/029401				Inactive	Expired	
1208284US	1208284DF	United States	Method of multi-coil operation and optimization	13/745,676	9,143,990			9/22/2015	Granted	Granted
1208284CN	1208284DF	China P.R.	Method of multi-coil operation and optimization	20148035043.7	2L201480005043			12/15/2017	Granted	Granted
1208284EP	1208284DF	European Patent Convention	Method of multi-coil operation and optimization	14/102994.6				Filed	Allowed	
1208284IN	1208284DF	India	Method of multi-coil operation and optimization	4952/CHENP/2015				Filed	Application	
1208284JP	1208284DF	Japan	Method of multi-coil operation and optimization	2015-555782	5923858			5/15/2016	Granted	Granted
1208284KR	1208284DF	Republic of Korea	Method of multi-coil operation and optimization	10-2015-7021706	10-1787220			10/11/2017	Granted	Granted
1208284WO	1208284DF	Patent Cooperation Treaty	Method of multi-coil operation and optimization	PCT/US2014/011492				Inactive	Expired	
121144	121144DF	United States	Device alignment and identification in inductive power transfer systems	13/770,340	9,859,755			1/7/2018	Granted	Granted

12/11/17

12124485	1215440F	India	Device alignment and identification in inductive power transfer systems	796120150010113			Filed		Application
12124486	1215440F	China P.R.	Device alignment and identification in inductive power transfer systems	20138037536.4	9/28/2015	Granted			Granted
12124487	1215440F	Japan	Device alignment and identification in inductive power transfer systems	131934073			Filed		Application
12124488	1215440F	India	Device alignment and identification in inductive power transfer systems	9155706501270.4			Filed		Application
12124489	1215440F	Spain	Device alignment and identification in inductive power transfer systems	2015 523054			Filed		Application
12124490	1215440F	Japan	Device alignment and identification in inductive power transfer systems	2015-002266			Filed		Application
12124491	1215440F	Republic of Korea	Device alignment and identification in inductive power transfer systems	10-2015-0035644			Filed		Application
12124492	1215440F	United States	Device alignment and identification in inductive power transfer systems	61671243			Inactive		Expired
12124493	1215440F	Taiwan	Wireless power receiver, wireless power transmitter, method of operating a wireless power receiver, and method of operating a wireless power transmitter	101153701			Filed		Application
12124494	1215440F	Taiwan	Device alignment and identification in inductive power transfer systems	2014052011046859			Inactive		Expired
122270	122270IDF	United States	Tuning circuit and method for wireless power transfer systems	13/725,346	9,679,695	6/13/2017	Granted		Granted
12227004	122270IDF	China P.R.	Tuning circuit and method for wireless power transfer systems	201380037513.3	21,201,380,037,513	6/11/2017	Granted		Granted
12227005	122270IDF	Germany	Tuning circuit and method for wireless power transfer systems	602012032162.6	EP2873132	9/26/2016	Granted		Granted

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122270EP	122270HDF	European Patent Convention	Tuning circuit and method for wireless power transfer systems	13737909.5	EP2873132	9/28/2016	Granted	Granted
122270FR	122270HDF	France	Tuning circuit and method for wireless power transfer systems	13737909.5	EP2873132	9/28/2016	Granted	Granted
122270GB	122270HDF	Great Britain	Tuning circuit and method for wireless power transfer systems	13737909.5	EP2873132	9/28/2016	Granted	Granted
122270IN	122270HDF	India	Tuning circuit and method for wireless power transfer systems	345/CHENP/2015			Filed	Application
122270JP	122270HDF	United States Patent Cooperation Treaty	Tuning circuit and method for wireless power transfer systems	61/672,249			Inactive	Expired
122270WO	122270HDF	United States Patent Cooperation Treaty	Tuning circuit and method for wireless power transfer systems	PCT/US2013/047540			Inactive	Expired
12227091	1222911DF	United States	Power supply control in wireless power transfer systems	13/822,821	9,255,356	9/2/2018	Granted	Granted
122270CN	1222911DF	China P.R.	Power supply control in wireless power transfer systems	201350062417.3	21,201,890,047,417.3	9/7/2018	Granted	Granted
122270EP	1222911DF	European Patent Convention	Power supply control in wireless power transfer systems	13/559,663			Filed	Application
122270IN	1222911DF	India	Power supply control in wireless power transfer systems	455/CHENP/2015			Filed	Application
122270JP	1222911DF	Japan	Power supply control in wireless power transfer systems	10/5,528,636	52,757,311	3/19/2018	Granted	Granted
122291EP	1222911DF	European Patent Convention	Power supply control in wireless power transfer systems	10/2015-7026495			Filed	Application
122291JP	1222911DF	United States Patent Cooperation Treaty	Power supply control in wireless power transfer systems	61/672,249			Inactive	Expired
122291WO	1222911DF	United States Patent Cooperation Treaty	Power supply control in wireless power transfer systems	PCT/US2013/055077			Inactive	Expired

Confidential

122296	122296IDF	United States	System and method for power output control in wireless power transfer systems	13,740,579	9,859,955	1/2/2013	Granted	Granted
122296CN	122296IDF	China P.R.	System and method for power output control in wireless power transfer systems	201380043725.2			Filed	Application
122296EP	122296IDF	European Patent Convention	System and method for power output control in wireless power transfer systems	13756243.5			Filed	Application
122296IN	122296IDF	India	System and method for power output control in wireless power transfer systems	687/CHENP/2015			Filed	Application
122296JP	122296IDF	Japan	System and method for power output control in wireless power transfer systems	2015-528628	6317349	4/6/2016	Granted	Granted
122296KR	122296IDF	Republic of Korea	System and method for power output control in wireless power transfer systems	10-2015-7007067			Filed	Application
122296P1	122296IDF	United States	System and method for power output control in wireless power transfer systems	631,632,908			Inactive	Expired
122296WO	122296IDF	Patent Cooperation Treaty	System and method for power output control in wireless power transfer systems	PCT/AU2013/056032			Inactive	Expired
122902	122905IDF	United States	Wireless power transfer system coil arrangements and method of operation	12,770,503	9,407,378	30/08/2010	Granted	Granted
122905CN	122905IDF	China P.R.	Wireless power transfer system coil arrangements and method of operation	20135334675.2	7,103,800,4697	14/10/2017	Granted	Granted
122905IN	122905IDF	India	Wireless power transfer system coil arrangements and method of operation	909/CHENP/2015			Filed	Application
122905P1	122905IDF	United States	Coil arrangements in wireless power transfer systems	63,704,265			Inactive	Expired
122905WO	122905IDF	Patent Cooperation Treaty	Wireless power transfer system coil arrangements and method of operation	PCT/AU2013/056438			Inactive	Expired
122906	122906IDF	United States	Wireless power transfer system coil arrangements and method of operation	12,770,424	9,671,975	6/6/2017	Granted	Granted

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1229060N	1229061DF	China P.R.	Wireless power transfer system coil arrangements and method of operation	201380045975.1		15/04/2017	Granted	Granted
1229060N	1229061DF	India	Wireless power transfer system coil arrangements and method of operation	1187/CHEMP/2015			Filed	Application
1229060P1	1229061DF	United States	Device, system and method for control of wireless power transfer	61/699,700			Inactive	Expired
1229060W0	1229061DF	Patent Cooperation Treaty	Wireless power transfer system coil arrangements and method of operation	PCT/US2013/054791			Inactive	Expired
1229070N	1229071DF	United States	RF power transfer system coil arrangements and method of operation	EP1948765.3/577946.802				
1229070N	1229071DF	China P.R.	Wireless power transfer system coil arrangements and method of operation	201310045795.7	9,065,357	9/30/2017	Granted	Granted
1229070N	1229071DF	Germany	Wireless power transfer system coil arrangements and method of operation	602013023141.0	EP2594105	7/5/2017	Granted	Granted
1229070P	1229071DF	European Patent Convention	Wireless power transfer system coil arrangements and method of operation	13750463.2	EP2554103	7/5/2017	Granted	Granted
1229070P	1229071DF	France	Wireless power transfer system coil arrangements and method of operation	13750463.2	EP2554103	7/5/2017	Granted	Granted
1229070P	1229071DF	Great Britain	Wireless power transfer system coil arrangements and method of operation	13750463.2	EP2554103	7/5/2017	Granted	Granted
1229070N	1229071DF	India	Wireless power transfer system coil arrangements and method of operation	2013036467013			Filed	Application
1229070P	1229071DF	Japan	Wireless power transfer system coil arrangements and method of operation	2015-191092	6199975	9/4/2017	Granted	Granted
1229070P	1229071DF	Republic of Korea	Wireless power transfer system coil arrangements and method of operation	10-2015-7425615	10-1850646	19/17/2017	Granted	Granted

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123037P1	1230370DF	United States	Wireless power transfer system coil arrangements and method of operation	6369,737			Granted	Granted
123037M1	1230370DF	United States	Wireless power transfer system coil arrangements and method of operation	6369,737			Granted	Granted
123039	1230390DF	United States	Electric vehicle wireless charging with monitoring of duration of charging operational mode	13,935,655	9,981,852	4/3/2018	Granted	Granted
123039C1	1230390DF	United States	ELECTRIC VEHICLE WIRELESS CHARGING WITH MONITORING OF DURATION OF CHARGING OPERATIONAL MODE	15,943,503			Abandoned	Abandoned
123039C2	1230390DF	China P.R.	Method and apparatus of transferring wireless power to an electric vehicle	201380033423.7	201380033423	11/24/2017	Granted	Granted
123039C421	1230390DF	China P.R.	Method and apparatus of transferring wireless power to an electric vehicle	2017,1079785.6			Filed	Application
123039DF	1230390DF	Germany	Electric vehicle wireless charging with monitoring of duration of charging operational mode	607013011545.0	EP2867974	9/21/2016	Granted	Granted
123039EP	1230390DF	European Patent Convention	Electric vehicle wireless charging with monitoring of duration of charging operational mode	15754292.9	EP2867974	9/21/2016	Granted	Granted
123039FR	1230390DF	France	Electric vehicle wireless charging with monitoring of duration of charging operational mode	13734232.9	EP2867974	9/21/2016	Granted	Granted
123039GB	1230390DF	Great Britain	Electric vehicle wireless charging with monitoring of duration of charging operational mode	15754292.9	EP2867974	9/21/2016	Granted	Granted
123039JP	1230390DF	Japan	Electric vehicle wireless charging with monitoring of duration of charging operational mode	2015-520407			Filed	Application

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122388P1	122388P1	United States	Systems, methods, and apparatus related to electric vehicle wireless charging	61/955,105				Issued	Expired
122389WO	122389WO	Patent Cooperation Treaty	Electric vehicle wireless charging with monitoring of duration of charging operation	PCT/JP2012/047676				Issued	Expired
122390P1	122390P1	United States	Systems, methods, and apparatus related to electric vehicle parking and wireless charging	13/851,086	10/271,562	10/271,562	10/271,562	Issued	Expired
122391WO	122391WO	Patent Cooperation Treaty	Systems, methods, and apparatus related to electric vehicle parking and wireless charging	PCT/JP2012/047676	10/271,562	10/271,562	10/271,562	Issued	Expired
122392P1	122392P1	United States	Systems, methods, and apparatus related to electric vehicle parking and wireless charging	13/851,086	10/271,562	10/271,562	10/271,562	Issued	Expired
122393P1	122393P1	United States	Systems, methods, and apparatus related to electric vehicle parking and wireless charging	13/851,086	10/271,562	10/271,562	10/271,562	Issued	Expired
122394P1	122394P1	United States	Systems, methods, and apparatus related to electric vehicle parking and wireless charging	13/851,086	10/271,562	10/271,562	10/271,562	Issued	Expired
122395P1	122395P1	United States	Systems, methods, and apparatus related to electric vehicle parking and wireless charging	13/851,086	10/271,562	10/271,562	10/271,562	Issued	Expired
122396P1	122396P1	United States	Systems, methods, and apparatus related to electric vehicle parking and wireless charging	13/851,086	10/271,562	10/271,562	10/271,562	Issued	Expired
122397P1	122397P1	United States	Systems, methods, and apparatus related to electric vehicle parking and wireless charging	13/851,086	10/271,562	10/271,562	10/271,562	Issued	Expired
122398P1	122398P1	United States	Systems, methods, and apparatus related to electric vehicle parking and wireless charging	13/851,086	10/271,562	10/271,562	10/271,562	Issued	Expired
122399P1	122399P1	United States	Systems, methods, and apparatus related to electric vehicle parking and wireless charging	13/851,086	10/271,562	10/271,562	10/271,562	Issued	Expired
122400P1	122400P1	United States	Systems, methods, and apparatus related to electric vehicle parking and wireless charging	13/851,086	10/271,562	10/271,562	10/271,562	Issued	Expired

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123430	123430IDF	United States	Selective communication based on distance from a plurality of electric vehicle wireless charging stations in a facility	13/942,875	9,302,594	4/5/2016	Granted	Granted
123430CN	123430IDF	China P.R.	Selective communication based on distance from a plurality of electric vehicle wireless charging stations in a facility	201380039834.7	ZL201380039834	10/13/2017	Granted	Granted
123430EP	123430IDF	European Patent Convention	Selective communication based on distance from a plurality of electric vehicle wireless charging stations in a facility	13747726.1		Filed	Application	
123430IN	123430IDF	India	Selective communication based on distance from a plurality of electric vehicle wireless charging stations in a facility	621/CHENP/2015		Filed	Application	
123430JP	123430IDF	Japan	Selective communication based on distance from a plurality of electric vehicle wireless charging stations in a facility	2015-523452	6382813	9/10/2018	Granted	Granted
123430PI	123430IDF	United States	Systems, methods, and apparatus related to electric vehicle wireless charging and parking	61/677,567		Inactive	Expired	
123430WO	123430IDF	Patent Cooperation Treaty	Selective communication based on distance from a plurality of electric vehicle wireless charging stations in a facility	PCT/JP2013/051509		Inactive	Expired	
12343071	123430IDF	United States	Systems, methods, and apparatus related to electric vehicle wireless charging	61/677,567		Inactive	Expired	
123478PI	123478IDF	United States	Systems, methods, and apparatus for detection of metal objects in a predetermined space	61/677,496		Inactive	Expired	

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123478U1	123478IDF	United States	Systems, methods, and apparatus for detection of metal objects in a predetermined space	13/791,585	9,726,518	8/8/2017	Granted	Granted
123478U1AR	123478IDF	Argentina	Systems, methods, and apparatus for detection of metal objects in a predetermined space	P130302458	48094820	11/29/2017	Granted	Granted
123478U1C1	123478IDF	United States	SYSTEMS, METHODS, AND APPARATUS FOR DETECTION OF METAL OBJECTS IN A PREDETERMINED SPACE	15/663,455		Filed	Application	
123478U1CN	123478IDF	China P.R.	Systems, methods, and apparatus for detection of metal objects in a predetermined space	201300036625.7	21301380036625	6/9/2017	Granted	Granted
123478U1EP	123478IDF	European Patent Convention	Systems, methods, and apparatus for detection of metal objects in a predetermined space	13742084.0		Filed	Application	
123478U1JP	123478IDF	Japan	Systems, methods, and apparatus for detection of metal objects in a predetermined space	2015-521778	6266616	1/5/2018	Granted	Granted
123478U1JP01	123478IDF	Japan	Systems, methods, and apparatus for detection of metal objects in a predetermined space	2017-240455		Filed	Application	
123478U1TW	123478IDF	Taiwan	Systems, methods, and apparatus for detection of metal objects in a predetermined space	102115283	1536035	5/3/2016	Granted	Granted
123478U1WO	123478IDF	Patent Cooperation Treaty	Systems, methods, and apparatus for detection of metal objects in a predetermined space	PCT/US2013/049925		Inactive	Expired	
123478U2	123478IDF	United States	Systems, methods, and apparatus for detection of metal objects in a predetermined space	13/791,365	9,410,823	8/9/2016	Granted	Granted

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123478024A	1234780DF	Argentina	Systems, methods, and apparatus for detection of metal objects in a predetermined space	P130102497	AR092856	12/29/2017	Granted	Granted
12347802CN	1234780DF	China P.R.	Systems, methods, and apparatus for detection of metal objects in a predetermined space using the magnetic field generated by an inductive power transmitter	20139003663.2.7	24201380036632	12/26/2017	Granted	Granted
12347802EP	1234780DF	European Patent Convention	Systems, methods, and apparatus for detection of metal objects in a predetermined space using the magnetic field generated by an inductive power transmitter	13742957.3			Filed	Allowed
12347802IN	1234780DF	India	Systems, methods, and apparatus for detection of metal objects in a predetermined space using the magnetic field generated by an inductive power transmitter	9131/CHENP/2014			Filed	Application
12347802TW	1234780DF	Taiwan	Systems, methods, and apparatus for detection of metal objects in a predetermined space	102125282	492886	9/1/2015	Granted	Granted
12347802TWD1	1234780DF	Taiwan	Systems, methods, and apparatus for detection of metal objects in a predetermined space	104123934	1570426	2/11/2017	Granted	Granted
12347802WO	1234780DF	Patent Cooperation Treaty	Systems, methods, and apparatus for detection of metal objects in a predetermined space using the magnetic field generated by an inductive power transmitter	PCT/US2013/049548			Inactive	Expired
12347802	1234780DF	United States	Methods of inductive power transfer, power supply, and method of operation	13773473	9,876,555	3/79/2015	Granted	Granted

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1242810N	1242810N	China P.R.	Modular inductive power transfer power supply and method of operation	10/26/2012	10/26/2012	5/23/2018	Granted	Granted
1242810E	1242810E	Germany	Modular inductive power transfer power supply and method of operation	10/26/2012	10/26/2012	4/13/2018	Granted	Granted
1242810F	1242810F	European Patent Convention	Modular inductive power transfer power supply and method of operation	10/26/2012	10/26/2012	4/13/2018	Granted	Granted
1242810H	1242810H	France	Modular inductive power transfer power supply and method of operation	10/26/2012	10/26/2012	4/13/2018	Granted	Granted
1242810J	1242810J	Great Britain	Modular inductive power transfer power supply and method of operation	10/26/2012	10/26/2012	4/13/2018	Granted	Granted
1242810K	1242810K	India	Modular inductive power transfer power supply and method of operation	10/26/2012	10/26/2012	4/13/2018	Granted	Granted
1242810L	1242810L	Japan	Modular inductive power transfer power supply and method of operation	10/26/2012	10/26/2012	4/13/2018	Granted	Granted
1242810M	1242810M	Republic of Korea	Modular inductive power transfer power supply and method of operation	10/26/2012	10/26/2012	4/13/2018	Granted	Granted
1242810P	1242810P	Patent Cooperation Treaty	Modular inductive power transfer power supply and method of operation	10/26/2012	10/26/2012	4/13/2018	Granted	Granted
124288	124288IDF	United States	Coil arrangements in wireless power transfer systems for low electromagnetic emissions	13/786,231	10/014,104	7/9/2018	Granted	Granted
124288BR	124288IDF	Brazil	Coil arrangements in wireless power transfer systems for low electromagnetic emissions	18/112035097782			Filed	Application
124288CN	124288IDF	China P.R.	Coil arrangements in wireless power transfer systems for low electromagnetic emissions	201380056764.6	201380056764	10/931/2017	Granted	Granted
124288EP	124288IDF	European Patent Convention	Coil arrangements in wireless power transfer systems for low electromagnetic emissions	15783193.9			Filed	Application
124288IN	124288IDF	India	Coil arrangements in wireless power transfer systems for low electromagnetic emissions	1985/CHEMP/2013			Filed	Application

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124228JP	124228IDF	Japan	Coil arrangements in wireless power transfer systems for low electromagnetic emissions	2015-540686			Filed	Application
124228KR	124228IDF	Republic of Korea	Coil arrangements in wireless power transfer systems for low electromagnetic emissions	10-2015-7014459			Filed	Application
124228PI	124228IDF	United States	Coil arrangements in wireless power transfer systems for low electromagnetic emissions	61/722,677			Inactive	Expired
124228TW	124228IDF	Taiwan	Coil arrangements in wireless power transfer systems for low electromagnetic emissions	102126311	650890	9/23/2016	Granted	Granted
124228WQ	124228IDF	Patent Cooperation Treaty	Coil arrangements in wireless power transfer systems for low electromagnetic emissions	PCT/US2013/064957			Inactive	Expired
130229	130229IDF	United States	System and method for inductance compensation in wireless power transfer	15,959,154	8,176,066	6/28/2016	Granted	Granted
130230	130230IDF	China P.R.	System and method for inductance compensation in wireless power transfer	201300354577.4	21,201,300,004,577	3/6/2017	Granted	Granted
130230P	130230IDF	Germany/European Patent Convention	System and method for inductance compensation in wireless power transfer	602013027794.7	EP29039661	5/4/2017	Granted	Granted
130230P	130230IDF	Convention	System and method for inductance compensation in wireless power transfer	13804567.4	EP29039661	5/31/2017	Granted	Granted
130230P	130230IDF	France	System and method for inductance compensation in wireless power transfer	13804567.4	EP29039661	5/31/2017	Granted	Granted
130230P	130230IDF	Great Britain	System and method for inductance compensation in wireless power transfer	13804567.4	EP29039661	5/31/2017	Granted	Granted
130230N	130230IDF	India	System and method for inductance compensation in wireless power transfer	2040050049 2015			Filed	Application
130230P	130230IDF	Japan	System and method for inductance compensation in wireless power transfer	2015-839760	8,61750	6/22/2017	Granted	Granted
130230Q	130230IDF	Republic of Korea	System and method for inductance compensation in wireless power transfer	10-2015-7014459			Filed	Application

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1307971D	1307971DF	Indonesia	Device alignment in inductive power transfer systems	9470794607290			Filed	Application
1307971W	1307971DF	India	Device alignment in inductive power transfer systems	201647005460			Filed	Application
1307971T	1307971DF	Italy	Device alignment in inductive power transfer systems	503577500735375	EP3025405		3/15/2017	Granted
1307971K	1307971DF	Japan	Device alignment in inductive power transfer systems	201647005460	EP3025405		3/15/2017	Granted
1307971B	1307971DF	Republic of Korea	Device alignment in inductive power transfer systems	11-2016-7103989			Filed	Application
1307971E	1307971DF	Sweden	Device alignment in inductive power transfer systems	24791083.7	EP3025405		3/15/2017	Granted
1307971A	1307971DF	Switzerland	Device alignment in inductive power transfer systems	2017105302	EP3025405		3/15/2017	Granted
1307971C	1307971DF	Switzerland	Device alignment in inductive power transfer systems	2017105302			Filed	Application
1307971G	1307971DF	United States	Systems and methods for bi-state impedance conversion in wireless power transfer	14/027,097	9,302,591		4/5/2016	Granted
130816A	130816DF	Brazil	Systems and methods for bi-state impedance conversion in wireless power transfer	BR1120160055314			Filed	Application
130816C1	130816DF	United States	Systems and methods for bi-state impedance conversion in wireless power transfer	15/084,982	9,994,114		6/12/2016	Granted
130816CA	130816DF	Canada	Systems and methods for bi-state impedance conversion in wireless power transfer	2920780	2920780		12/5/2017	Granted
130816CN	130816DF	China P.R.	Systems and methods for bi-state impedance conversion in wireless power transfer	201489950504.7	2120248000304		9/28/2016	Granted
130816DE	130816DF	Germany	Systems and methods for bi-state impedance conversion in wireless power transfer	602014010145.3	EP3036820		5/24/2017	Granted
130816EP	130816DF	European Patent Convention	Systems and methods for bi-state impedance conversion in wireless power transfer	14766380.1	EP3036820		5/24/2017	Granted
130816ES	130816DF	Spain	Systems and methods for bi-state impedance conversion in wireless power transfer	14766380.1	EP3036820		5/24/2017	Granted

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130816FI	130816IDF	Finland	Systems and methods for bi-state impedance conversion in wireless power transfer	14766380.1	EP3035820	5/24/2017	Granted
130816FR	130816IDF	France	Systems and methods for bi-state impedance conversion in wireless power transfer	14766380.1	EP3035820	5/24/2017	Granted
130816GB	130816IDF	Great Britain	Systems and methods for bi-state impedance conversion in wireless power transfer	14766380.1	EP3035820	5/24/2017	Granted
130816HU	130816IDF	Hungary	Systems and methods for bi-state impedance conversion in wireless power transfer	14766380.1	EP3035820	5/24/2017	Granted
130816ID	130816IDF	Indonesia	Systems and methods for bi-state impedance conversion in wireless power transfer	P-00703602225		Filed	Application
130816IN	130816IDF	India	Systems and methods for bi-state impedance conversion in wireless power transfer	201647004004		Filed	Application
130816IT	130816IDF	Italy	Systems and methods for bi-state impedance conversion in wireless power transfer	502617830090138	EP3035820	5/24/2017	Granted
130816JP	130816IDF	Japan	Systems and methods for bi-state impedance conversion in wireless power transfer	2016-342043	8043895	11/18/2016	Granted
130816KR	130816IDF	Republic of Korea	Systems and methods for bi-state impedance conversion in wireless power transfer	10-2016-7028040	10-1932822	12/19/2018	Granted
130816KP	130816IDF	Republic of Korea	Systems and methods for bi-state impedance conversion in wireless power transfer	10-2017-7014619		Filed	Application
130816NL	130816IDF	Netherlands	Systems and methods for bi-state impedance conversion in wireless power transfer	14766380.1	EP3035820	5/24/2017	Granted
130816NO	130816IDF	Patent Cooperation Treaty	Systems and methods for bi-state impedance conversion in wireless power transfer	PCT/US2014/054767		Inactive	Expired
130816RU	130816IDF	Indian States	Primary power supply tuning network for two coil devices and method of operation	2017131852	9441369	8/30/2016	Granted
130816TW	130816IDF	China P.R.	Primary power supply tuning network for two coil devices and method of operation	201602024622.4		Filed	Application

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1308180E	1308180F	Germany	Primary power supply tuning network for two coil device and method of operation	87281407/2013.7	592884730	3/22/2017	Granted	Granted
1308187E	1308187F	European Patent Convention	Primary power supply tuning network for two coil device and method of operation	14714625.7	592884730	3/22/2017	Granted	Granted
1308189E	1308189F	France	Primary power supply tuning network for two coil device and method of operation	14714625.7	592884730	3/22/2017	Granted	Granted
1308195E	1308195F	Great Britain	Primary power supply tuning network for two coil device and method of operation	14714625.7	592884730	3/22/2017	Granted	Granted
1308196E	1308196F	India	Primary power supply tuning network for two coil device and method of operation	615415/2015			Filed	Application
1308198E	1308198F	Japan	Primary power supply tuning network for two coil device and method of operation	2016-518973			Filed	Application
1308199E	1308199F	Republic of Korea	Primary power supply tuning network for two coil device and method of operation	2016-000009			Filed	Application
1308200E	1308200F	Patent Cooperation Treaty	Primary power supply tuning network for two coil device and method of operation	PCT/US2014/030571			Inactive	Expired
131931	1319310F	United States	Pickup coil design for tight spaces and asymmetrical coupling	14/027,055	10,186,912	1/22/2019	Granted	Granted
1319310N	13193110F	China P.R.	Pickup coil design for tight spaces and asymmetrical coupling	2014800050303.2	ZL2014800050303	10/9/2018	Granted	Granted
131931EP	13193110F	European Patent Convention	Pickup coil design for tight spaces and asymmetrical coupling	14776940.0			Filed	Application
131931IN	13193110F	India	Pickup coil design for tight spaces and asymmetrical coupling	201607004019			Filed	Application
131931JP	13193110F	Japan	Pickup coil design for tight spaces and asymmetrical coupling	2016-542045			Filed	Application
131931WO	13193110F	Patent Cooperation Treaty	Pickup coil design for tight spaces and asymmetrical coupling	PCT/US2014/054825			Inactive	Expired

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132870P1	132870P1	United States Patent Cooperation Treaty	Vehicle charging and having reduced thickness	6/18/2017				Inactive	Expired
132870P2	132870P2	United States Patent Cooperation Treaty	Vehicle charging and having reduced thickness	PCT/US2014/035594				Inactive	Expired
132870	132870P1	United States	System and method for detecting the presence of a moving object below a vehicle	14/059,299	9,365,126	6/14/2016	Granted	Granted	Granted
132870C4	132870P1	China P.R. European Patent Convention	System and method for detecting the presence of a moving object below a vehicle	201430024711.0	ZL201480024711.0	6/9/2017	Granted	Granted	Granted
132870E2	132870P2		System and method for detecting the presence of a moving object below a vehicle	14727310.6			Filed	Application	Application
132870M	132870P1	India	System and method for detecting the presence of a moving object below a vehicle	5979/CHENP/2015			Filed	Application	Application
132870P	132870P1	Japan	System and method for detecting the presence of a moving object below a vehicle	2016-512926			Filed	Allowed	Allowed
132870R	132870P2	Republic of Korea	System and method for detecting the presence of a moving object below a vehicle	10-2015-7094677			Filed	Application	Application
132870P1	132870P1	United States Patent Cooperation Treaty	System and method for detecting the presence of a moving object below a vehicle	6/18/22,114			Inactive	Expired	Expired
132870W0	132870P2		System and method for detecting the presence of a moving object below a vehicle	PCT/US2014/035460			Inactive	Expired	Expired
132870	132870P1	United States	Systems, methods, and apparatuses related to electric vehicle wired and wireless charging	14/156,306	9,587,823	7/15/2016	Granted	Granted	Granted
132870C4	132870P1	China P.R.	Systems, methods and apparatuses related to electric vehicle wired and wireless charging	201480027714.4			Filed	Application	Application
132870P	132870P1	European Patent Convention	Systems, methods, and apparatuses related to electric vehicle wired and wireless charging	14/18653.9			Filed	Application	Application

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1332954N	1332954DF	India	Systems, methods, and apparatus related to electric vehicle wired and wireless charging	50351045B/70013			Filed	Application
1332955P	1332955DF	China	Systems, methods, and apparatus related to electric vehicle wired and wireless charging	20161223984	10/2001	10/19/2016	Granted	Granted
1332956P	1332956DF	Republic of Korea	Systems, methods, and apparatus related to electric vehicle wired and wireless charging	10-2015-0035334			Filed	Application
1332957P	1332957DF	United States	Systems, methods, and apparatus related to electric vehicle wired and wireless charging	151829,538			Granted	Granted
1332958P	1332958DF	Patent Cooperation Treaty	Systems, methods, and apparatus related to electric vehicle wired and wireless charging	151829,538			Granted	Granted
1332959P	1332959DF	United States	Electric vehicle induction coil housing with interengagement structure for ferrite tile assemblies	14/203,289	9,583,253	2/28/2017	Granted	Granted
133295BR	1332954DF	Israel	Electric vehicle induction coil housing with interengagement structure for ferrite tile assemblies	13R1120160205520			Filed	Application
133295CN	1332954DF	China P.R.	Electric vehicle induction coil housing with interengagement structure for ferrite tile assemblies	201580013247.X	201580013247	9/18/2016	Granted	Granted
133295EP	1332954DF	European Patent Convention	Electric vehicle induction coil housing with interengagement structure for ferrite tile assemblies	15707855.1			Filed	Application
133295IN	1332954DF	India	Electric vehicle induction coil housing with interengagement structure for ferrite tile assemblies	201647023360			Filed	Application

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133295JP	133295JOF	Japan	Electric vehicle induction coil housing with interengagement structure for ferrite tile assemblies	2015-555835				Filed	Application
133295KR	133295KIDF	Republic of Korea	Electric vehicle induction coil housing with interengagement structure for ferrite tile assemblies	10-2016-7026366				Filed	Application
133295WO	133295IDF	Patent Cooperation Treaty	Electric vehicle induction coil housing with interengagement structure for ferrite tile assemblies	PCT/US2015/017121				Inactive	Expired
133295	133295IDF	United States	Systems, methods, and apparatus related to mutual detection and identification of electric vehicle and charging station	14/194,384	9,446,674	9/24/2016	Granted		Granted
133295	133295IDF	Israel	SYSTEMS, METHODS, AND APPARATUS RELATED TO MUTUAL DETECTION AND IDENTIFICATION OF ELECTRIC VEHICLE AND CHARGING STATION	391101620-539				Filed	Application
133295CL	133295IDF	United States	Systems, methods, and apparatus related to mutual detection and identification of electric vehicle and charging station	15/072,653	9,931,859	9/17/2018	Granted		Granted
133295CL	133295IDF	United States	SYSTEMS, METHODS, AND APPARATUS RELATED TO MUTUAL DETECTION AND IDENTIFICATION OF ELECTRIC VEHICLE AND CHARGING STATION	15/054,381				Filed	Application
133295	133295IDF	Canada	SYSTEMS, METHODS, AND APPARATUS RELATED TO MUTUAL DETECTION AND IDENTIFICATION OF ELECTRIC VEHICLE AND CHARGING STATION	20140162				Filed	Allowed

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133987WO131	133987IDF	Taiwan	SYSTEMS, METHODS, AND APPARATUS RELATED TO MUTUAL DETECTION AND IDENTIFICATION OF ELECTRIC VEHICLE AND CHARGING STATION	107149925				Filed	Application
133988WO	133988IDF	Patent Cooperation Treaty	SYSTEMS, METHODS, AND APPARATUS RELATED TO MUTUAL DETECTION AND IDENTIFICATION OF ELECTRIC VEHICLE AND CHARGING STATION	PCT/JP2014/045684				Inactive	Expired
133985	133985IDF	United States	Integration of electronic components in inductive power transfer systems	14/252,518	9,533,589	1/3/2017	Granted		Granted
133985CN	133985IDF	China P. R.	Integration of electronic components in inductive power transfer systems	201480039898.1		10/26/2018	Granted		Granted
133985EP	133985IDF	European Patent Convention	Integration of electronic components in inductive power transfer systems	14739934.5			Filed		Application
133985IN	133985IDF	India	Integration of electronic components in inductive power transfer systems	7618/CHENP/2015			Filed		Application
133985WO	133985IDF	Patent Cooperation Treaty	INTEGRATION OF ELECTRONIC COMPONENTS IN INDUCTIVE POWER TRANSFER SYSTEMS	PCT/US2014/041107			Inactive		Expired
134149	134149IDF	United States	Systems, methods, and apparatus related to detecting and identifying electric vehicle and charging station	14/185,705	9,505,974	1/12/2018	Granted		Granted
134149CN	134149IDF	China P. R.	Systems, methods, and apparatus related to detecting and identifying electric vehicle and charging station	15/351,404			Inactive		Abandoned
134149CN	134149IDF	China P. R.	Systems, methods, and apparatus related to detecting and identifying electric vehicle and charging station	201480039852.4	7,700,38304,765.3	7/7/2017	Granted		Granted

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1342318A	134231HDF	Brazil	System and method for alignment and compatibility detection for a wireless power transfer system	BR1120160042158				Filed	Application
134231CA	134231HDF	Canada	System and method for alignment and compatibility detection for a wireless power transfer system	2919719				Filed	Application
134231CN	134231HDF	China P.R.	System and method for alignment and compatibility detection for a wireless power transfer system	201480047010.9	21/201420047010	4/24/2018	Granted		Granted
134231DE	134231HDF	Germany	System and method for alignment and compatibility detection for a wireless power transfer system	602014011059.3	EP3031117	6/21/2017	Granted		Granted
134231EP	134231HDF	European Patent Convention	System and method for alignment and compatibility detection for a wireless power transfer system	14756195.5	EP3031117	6/21/2017	Granted		Granted
134231ES	134231HDF	Spain	System and method for alignment and compatibility detection for a wireless power transfer system	14756195.5	EP3031117	6/21/2017	Granted		Granted
134231FI	134231HDF	Finland	System and method for alignment and compatibility detection for a wireless power transfer system	14756195.5	EP3031117	6/21/2017	Granted		Granted
134231FR	134231HDF	France	System and method for alignment and compatibility detection for a wireless power transfer system	14756195.5	EP3031117	6/21/2017	Granted		Granted
134231GB	134231HDF	Great Britain	System and method for alignment and compatibility detection for a wireless power transfer system	14756195.5	EP3031117	6/21/2017	Granted		Granted
134231HU	134231HDF	Hungary	System and method for alignment and compatibility detection for a wireless power transfer system	14756195.5	EP3031117	6/21/2017	Granted		Granted

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134231ID	134231IDF	Indonesia	System and method for alignment and compatibility detection for a wireless power transfer system	P-00201601867				Filed	Application
134231IN	134231IDF	India	System and method for alignment and compatibility detection for a wireless power transfer system	201647003525				Filed	Application
134231IT	134231IDF	Italy	System and method for alignment and compatibility detection for a wireless power transfer system	50201700096981	EP3031117	6/21/2017	Granted	Granted	Granted
134231JP	134231IDF	Japan	System and method for alignment and compatibility detection for a wireless power transfer system	2016-538959	6427578	11/2/2018	Granted	Granted	Granted
134231KR	134231IDF	Republic of Korea	System and method for alignment and compatibility detection for a wireless power transfer system	10-2016-7008240				Filed	Application
134231NL	134231IDF	Netherlands	System and method for alignment and compatibility detection for a wireless power transfer system	14756195.5	EP3031117	6/21/2017	Granted	Granted	Granted
134231PT	134231IDF	United States	System and method for alignment and compatibility detection for a wireless power transfer system	63/873,271				Inactive	Expired
134231TW	134231IDF	Taiwan	System and method for alignment and compatibility detection for a wireless power transfer system	102139750				Filed	Allowed
134231WC	134231IDF	Patent Cooperation Treaty	System and method for alignment and compatibility detection for a wireless power transfer system	PCT/US2016/051141				Inactive	Expired
134245	134231IDF	United States	Devices, systems, and method for dynamic electric vehicle charging with position detection	15/041572				Filed	Application

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1349460N	1349460DF	China P.R.	Devices, systems, and method for dynamic electric vehicle charging with position detector	201520036179.4				Filed		Application
1349465P	1349465DF	European Patent Convention	Devices, systems, and method for dynamic electric vehicle charging with position detector	13733375.2				Filed		Application
1349467N	1349467DF	India	Devices, systems, and method for dynamic electric vehicle charging with position detector	201647042136				Filed		Application
1349468P	1349468DF	Japan	Devices, systems, and method for dynamic electric vehicle charging with position detector	2017-503461				Filed		Application
1349469P	1349469DF	Republic of Korea	Devices, systems, and method for dynamic electric vehicle charging with position detector	10-2017-7002951				Filed		Application
1349470P	1349470DF	Patent Cooperation Treaty	Devices, systems, and method for dynamic electric vehicle charging with position detector	PCT/JP2015/076493				Native		Expired
1349502	1349502DF	United States	Systems, methods, and apparatus related to guidance and alignment for an electric vehicle and charging station	14/480,999	10,139,256		11/27/2018	Granted		Granted
1349520N	1349520DF	China P.R.	Systems, methods, and apparatus related to guidance and alignment for an electric vehicle and charging station	201480049630.6				Filed		Application
1349521P	1349521DF	European Patent Convention	Systems, methods, and apparatus related to guidance and alignment for an electric vehicle and charging station	14772526.1				Filed		Allowed
1349522N	1349522DF	India	Systems, methods, and apparatus related to guidance and alignment for an electric vehicle and charging station	201647004017				Filed		Application

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134902IP	134902IDF	Japan	Systems, methods, and apparatus related to guidance and alignment for an electric vehicle and charging station	2016-542072	6431075	11/9/2016	Granted	Granted
134902P1	134902IDF	United States	Systems, methods, and apparatus related to guidance and alignment for an electric vehicle and charging station	63/876,702			Inactive	Expired
134902WQ	134902IDF	Patent Cooperation Treaty	Systems, methods, and apparatus related to guidance and alignment for an electric vehicle and charging station	PCT/US2014/054999			inactive	Expired
1349075	135025IDF	United States	Systems, methods, and apparatus for increased foreign object detection loop array sensitivity	8,751,851	1,931,045	9/30/2018	Granted	Granted
135075CW	135025IDF	China P.R.	Systems, methods, and apparatus for increased foreign object detection loop array sensitivity	20142005057.7	2,001,489,565.7	6/13/2018	Granted	Granted
135075DF	135025IDF	Germany	Systems, methods, and apparatus for increased foreign object detection loop array sensitivity	10201400644.0	EP2044495	9/05/2017	Granted	Granted
135075DF	135025IDF	European Patent Convention	Systems, methods, and apparatus for increased foreign object detection loop array sensitivity	14793950.3	EP2044495	9/05/2017	Granted	Granted
135075DF	135025IDF	France	Systems, methods, and apparatus for increased foreign object detection loop array sensitivity	14793950.3	EP2044495	9/05/2017	Granted	Granted
135075DF	135025IDF	Great Britain	Systems, methods, and apparatus for increased foreign object detection loop array sensitivity	14793950.3	EP2044495	9/05/2017	Granted	Granted
135075H	135025IDF	India	Systems, methods, and apparatus for increased foreign object detection loop array sensitivity	201547708873			Filed	Application

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34020249	14020251DF	Japan	Systems, methods, and apparatus for increased foreign object detection loop array sensitivity	2015-524589				Filed	Application
34020250	14020252DF	United States	SYSTEMS, METHODS, AND APPARATUS FOR INCREASING FOREIGN OBJECT DETECTION LOOP ARRAY SENSITIVITY	62,894,723				Granted	Expired
34020251WO	13020253P	Patent Cooperation Treaty	Systems, methods, and apparatus for increased foreign object detection loop array sensitivity	PCT/US2014/061150				Granted	Expired
340203	1402031DF	United States	SYSTEM AND METHOD FOR ADAPTIVE CHARGING COMPLIANCE CONTROL	14/301,085	9,463,705	10/11/2016	Granted		Granted
340203CN	1402031DF	China P.R.	System and method for adaptive charging compliance control	201580031183.6	ZL201580031183	12/21/2016	Granted		Granted
340203EP	1402031DF	European Patent Convention	System and method for adaptive charging compliance control	15725925.0				Filed	Application
340203IN	1402031DF	India	System and method for adaptive charging compliance control	201647037063				Filed	Application
340203JP	1402031DF	Japan	System and method for adaptive charging compliance control	2016-570790	6227905	16/30/2017	Granted		Granted
340203KR	1402031DF	Republic of Korea	System and method for adaptive charging compliance control	10-2016-7034533	10-1366114	6/1/2018	Granted		Granted
340203WO	1402031DF	Patent Cooperation Treaty	System and method for adaptive charging compliance control	PCT/US2015/025709				Inactive	Expired
34020355	1402031DF	United States	System and method for reducing inductance for polarized system for wireless inductive power transfer	14/608,567	10,003,217	6/18/2018	Granted		Granted

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140725EP	140725IDF	European Patent Convention	Methods and systems for object detection and sensing for wireless charging systems	15732489.8				Filed	Application
140725IN	140725IDF	India	Methods and systems for object detection and sensing for wireless charging systems	201647037952				Filed	Application
140725JP	140725IDF	Japan	Methods and systems for object detection and sensing for wireless charging systems	2016-573098				Filed	Application
140725KR	140725IDF	Republic of Korea	Methods and systems for object detection and sensing for wireless charging systems	10-2016-7034523				Filed	Application
140725WO	140725IDF	Patent Cooperation Treaty	Methods and systems for object detection and sensing for wireless charging systems	PCT/US2015/035155				Inactive	Expired
140786	140786IDF	United States	Coupling strategies for inductive power transfer	14/461,245			9/5/2014	Granted	Granted
140786C1	140786IDF	United States	Coupling strategies for inductive power transfer	15/651,646				Filed	Application
140786C2	140786IDF	China P.R.	Coupling strategies for inductive power transfer	201480056687.2				Filed	Application
140786C3	140786IDF	Germany	Coupling strategies for inductive power transfer	10/2014238033.3			9/4/2015	Granted	Granted
140786C4	140786IDF	European Patent Convention	Coupling strategies for inductive power transfer	14521998.1			9/4/2015	Granted	Granted
140786C5	140786IDF	European Patent Convention	Coupling strategies for inductive power transfer	16/2017556				Filed	Application
140786C6	140786IDF	France	Coupling strategies for inductive power transfer	14521998.1			9/4/2015	Granted	Granted
140786C7	140786IDF	Great Britain	Coupling strategies for inductive power transfer	14521998.1			9/4/2015	Granted	Granted
140786C8	140786IDF	India	Coupling strategies for inductive power transfer	201647037952				Filed	Application
140786C9	140786IDF	Japan	Coupling strategies for inductive power transfer	2016-573098				Filed	Application
140786C10	140786IDF	Republic of Korea	Coupling strategies for inductive power transfer	10-2016-7034523				Filed	Application
140786C11	140786IDF	United States	Coupling strategies for inductive power transfer	62/917,255				Inactive	Expired

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14109801	14109801F	Patent Cooperation Treaty	System, method and apparatus for reducing the weight of bipolar transistors and/or receivers in power delivery channel	9,742,300	8/22/2017	Granted	Expired
14109802	14109802F	United States	System and method to avoid magnetic power loss while providing alternating current through a ferromagnetic material	14/464,383	9/24/200	Granted	Granted
14109803	14109803F	China P.R.	System and method to avoid magnetic power loss while providing alternating current through a ferromagnetic material	201480064577.7	4/20/2018	Granted	Granted
14109804	14109804F	European Patent Convention	System and method to avoid magnetic power loss while providing alternating current through a ferromagnetic material	14916044.3		Filed	Application
14109805	14109805F	India	System and method to avoid magnetic power loss while providing alternating current through a ferromagnetic material	201647014474		Filed	Application
14109806	14109806F	Japan	System and method to avoid magnetic power loss while providing alternating current through a ferromagnetic material	2016-336357		Filed	Application
14109807	14109807F	Republic of Korea	System and method to avoid magnetic power loss while providing alternating current through a ferromagnetic material	10-2016-7017520		Filed	Application
14109808	14109808F	United States	System and method to avoid magnetic power loss while providing alternating current through a ferromagnetic material	61/7913,775		inactive	Expired

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1410356A2	1410356B6	Patent Continuation	System and method to avoid magnetic power loss while providing alternating current through a ferromagnetic material	PCT/AE01/008131				Expired
1410357	1410357B7	Patent Continuation	System, systems, and method for power control of dynamic electric vehicle charging system	US 2010/0171459	US 2010/0171459			Granted
1410358	1410358B7	Patent Continuation	System, systems, and method for power control of dynamic electric vehicle charging system	US 2010/0171460	US 2010/0171460			Granted
1410359	1410359B7	Patent Continuation	System, systems, and method for power control of dynamic electric vehicle charging system	US 2010/0171461	US 2010/0171461			Granted
1410360	1410360B7	Patent Continuation	System, systems, and method for power control of dynamic electric vehicle charging system	US 2010/0171462	US 2010/0171462			Granted
1410361	1410361B7	Patent Continuation	System, systems, and method for power control of dynamic electric vehicle charging system	US 2010/0171463	US 2010/0171463			Granted
1410362	1410362B7	Patent Continuation	System, systems, and method for power control of dynamic electric vehicle charging system	US 2010/0171464	US 2010/0171464			Granted
1410363	1410363B7	Patent Continuation	System, systems, and method for power control of dynamic electric vehicle charging system	US 2010/0171465	US 2010/0171465			Granted
1410364	1410364B7	Patent Continuation	System, systems, and method for power control of dynamic electric vehicle charging system	US 2010/0171466	US 2010/0171466			Granted
1410365	1410365B7	Patent Continuation	System, systems, and method for power control of dynamic electric vehicle charging system	US 2010/0171467	US 2010/0171467			Granted
1410366	1410366B7	Patent Continuation	System, systems, and method for power control of dynamic electric vehicle charging system	US 2010/0171468	US 2010/0171468			Granted
1410367	1410367B7	Patent Continuation	System, systems, and method for power control of dynamic electric vehicle charging system	US 2010/0171469	US 2010/0171469			Granted
1410368	1410368B7	Patent Continuation	System, systems, and method for power control of dynamic electric vehicle charging system	US 2010/0171470	US 2010/0171470			Granted
1410369	1410369B7	Patent Continuation	System, systems, and method for power control of dynamic electric vehicle charging system	US 2010/0171471	US 2010/0171471			Granted
1410370	1410370B7	Patent Continuation	System, systems, and method for power control of dynamic electric vehicle charging system	US 2010/0171472	US 2010/0171472			Granted

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141373407	14137310F	Patent Cooperation Treaty	Devices systems and method for power control of dynamic electric vehicle charging systems	PCT/AU2014/013993				inactive	Expired
141373	14137310F	United States	COMPLIANCE ASSESSMENT OF HUMAN EXPOSURE FROM WIRELESS ELECTRIC VEHICLE CHARGING SYSTEM USING AT LEAST ONE PHANTOM MODEL	14/574,095	9,575,108	2/21/2017	Granted		Granted
141373CN	14137310F	China P.R.	Compliance assessment of human exposure from wireless electric vehicle charging system	201380066182.8	71202482056188	10/16/2018	Granted		Granted
141373EP	14137310F	European Patent Convention	Compliance assessment of human exposure from wireless electric vehicle charging system	14824725.7			Filed		Application
141373IN	14137310F	India	Compliance assessment of human exposure from wireless electric vehicle charging system	201647016132			Filed		Application
141373JP	14137310F	Japan	Compliance assessment of human exposure from wireless electric vehicle charging system	2016-539911			Filed		Application
141373KR	14137310F	Republic of Korea	Compliance assessment of human exposure from wireless electric vehicle charging system	10-2016-7019096			Filed		Application
141373P1	14137310F	United States	Compliance assessment of human exposure from wireless electric vehicle charging system	61/918,568			inactive		Expired
141373WO	14137310F	Patent Cooperation Treaty	Compliance assessment of human exposure from wireless electric vehicle charging system	PCT/AU2014/071249			inactive		Expired
141373	14137310F	United States	BASED DIRECTIONAL REFERENCE FOR DYNAMIC WIRELESS CHARGING	14/706,002	9,511,624	12/5/2016	Granted		Granted

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141637BR	141637IDF	Brazil	Inductive power supply for vehicles comprising a plurality of charging coils which can be operated in different sequences	8553120160242270				Filed	Application
141637CN	141637IDF	China P.R.	Inductive power supply for vehicles comprising a plurality of charging coils which can be operated in different sequences	301580020342.2				Filed	Application
141637EP	141637IDF	European Patent Convention	Inductive power supply for vehicles comprising a plurality of charging coils which can be operated in different sequences	15716674.5				Filed	Allowed
141637IN	141637IDF	India	Inductive power supply for vehicles comprising a plurality of charging coils which can be operated in different sequences	300647030326				Filed	Application
141637JP	141637IDF	Japan	Inductive power supply for vehicles comprising a plurality of charging coils which can be operated in different sequences	2016-562538				Filed	Application
141637KR	141637IDF	Republic of Korea	Inductive power supply for vehicles comprising a plurality of charging coils which can be operated in different sequences	10-2016-7052013				Filed	Application
141637P1	141637IDF	United States	Base magnetica and sequence design for dynamic systems	61/981,443				Inactive	Expired
141637TW	141637IDF	Taiwan	Base magnetica and sequence design for dynamic systems	104111985				Filed	Application
141637WO	141637IDF	Patent Cooperation Treaty	Inductive power supply for vehicles comprising a plurality of charging coils which can be operated in different sequences	PCT/US2015/023815				Inactive	Expired

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141036	141055DF	United States	System and method for reactive power control in dynamic inductive power transfer systems	14/450,963	9,650,303	8/22/2017	Granted
141558CN	141056DF	China P.R.	System and method for reactive power control in dynamic inductive power transfer systems	201580046077.9		Filed	Application
141064EP	141058DF	European Patent Convention	System and method for reactive power control in dynamic inductive power transfer systems	15760024.8	EP191359	9/26/2018	Granted
141064GB	141059DF	Great Britain	System and method for reactive power control in dynamic inductive power transfer systems	15760024.8	244111288	9/26/2018	Granted
141064JP	141059DF	Japan	System and method for reactive power control in dynamic inductive power transfer systems	2017-51781		Filed	Application
141055KR	141056DF	Republic of Korea	System and method for reactive power control in dynamic inductive power transfer systems	10-2015-0035519		Filed	Application
141055WO	141056DF	Patent Cooperation Treaty	System and method for reactive power control in dynamic inductive power transfer systems	PCT/KR2015/0035519		Positive	Examined
143418	143418DF	United States	Systems, methods, and apparatus for radar-based detection of objects in a predetermined space	14/535,295	9,772,401	9/26/2017	Granted
143418BR	143418DF	Brazil	Systems, methods, and apparatus for radar-based detection of objects in a predetermined space	BR1120160214870		Filed	Application
143418CN	143418DF	China P.R.	Systems, methods, and apparatus for radar-based detection of objects in a predetermined space	201580012630.3		Filed	Application

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143418DE	143418IDF	Germany	Systems, methods, and apparatus for radar-based detection of objects in a predetermined space	602015007454.8	EP3120463	1/10/2018	Granted	Granted
143418EF	143418IDF	European Patent Convention	Systems, methods, and apparatus for radar-based detection of objects in a predetermined space	15707852.8	EP3120463	1/10/2018	Granted	Granted
143418EPDI	143418IDF	European Patent Convention	Systems, methods, and apparatus for radar-based detection of objects in a predetermined space	17202185.9			Filed	Application
143418FF	143418IDF	France	Systems, methods, and apparatus for radar-based detection of objects in a predetermined space	15707852.8	EP3120463	1/10/2018	Granted	Granted
143418GG	143418IDF	Great Britain	Systems, methods, and apparatus for radar-based detection of objects in a predetermined space	15707852.8	EP3120463	1/10/2018	Granted	Granted
143418HH	143418IDF	India	Systems, methods, and apparatus for radar-based detection of objects in a predetermined space	201647025358			Filed	Application
143418IP	143418IDF	Japan	Systems, methods, and apparatus for radar-based detection of objects in a predetermined space	2016-554850			Filed	Allowed
143418KK	143418IDF	Republic of Korea	Systems, methods, and apparatus for radar-based detection of objects in a predetermined space	10-2016-7027741			Filed	Application
143418PI	143418IDF	United States	SYSTEMS, METHODS, AND APPARATUS FOR RADAR-BASED DETECTION OF OBJECTS IN A PREDETERMINED SPACE	62/954,327			Inactive	Expired
143418WO	143418IDF	Patent Cooperation Treaty	Systems, methods, and apparatus for radar-based detection of objects in a predetermined space	PCT/US2015/016671			Inactive	Expired

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1439180E	1439181DF	Germany	System and method for frequency protection in wireless charging	902015012731.5	EP3132518	6/27/2018	Granted	Granted
1439181E	1439182DF	European Patent Convention	System and method for frequency protection in wireless charging	15712027.0	EP3132518	6/27/2018	Granted	Granted
1439182E	1439183DF	France	System and method for frequency protection in wireless charging	15712027.0	EP3132518	6/27/2018	Granted	Granted
1439183E	1439184DF	Great Britain	System and method for frequency protection in wireless charging	15712027.0	EP3132518	6/27/2018	Granted	Granted
1439184E	1439185DF	India	System and method for frequency protection in wireless charging	201547025957		Filed		Application
1439185E	1439186DF	Japan	System and method for frequency protection in wireless charging	2016-555577	6457548	12/28/2018	Granted	Granted
1439186E	1439187DF	Republic of Korea	System and method for frequency protection in wireless charging	10-2016-7026780		Filed		Application
1439187E	1439188DF	United States Patent Cooperation Treaty	System and method for frequency protection in wireless charging	61/969,255		Inactive		Expired
1439188E	1439189DF	United States	System and method for frequency protection in wireless charging	PCT/US2015/030760		Inactive		Expired
1439189E	1439190DF	United States	Systems, methods, and apparatus related to wireless charging management	14/667,367	9,635,555	6/19/2017	Granted	Granted
1439190E	1439191DF	Israel	Systems, methods, and apparatus related to wireless charging management	88,120,607.27.0		Filed		Application
1439191E	1439192DF	United States	SYSTEMS, METHODS, AND APPARATUS RELATED TO WIRELESS CHARGING MANAGEMENT	15/459,180	10,146,847	12/14/2018	Granted	Granted
1439192E	1439193DF	China P.R.	Systems, methods, and apparatus related to wireless charging management	7915,0015375.0		Filed		Application

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14455100	14455100	Patent Cooperation Treaty	System and method for extending battery life in wireless electronic device charging systems	PCT/US2015/040373				inactive	Expired
14455101	14455101	United States	Systems, methods, and apparatus for foreign object detection loop based on inductive thermal sensing	14/279,112				Filed	Allowed
14455102	14455102	China P.R.	Systems, methods, and apparatus for foreign object detection loop based on inductive thermal sensing	201580024599.5				Filed	Application
14455103	14455103	European Patent Convention	Systems, methods, and apparatus for foreign object detection loop based on inductive thermal sensing	15727114.9				Filed	Application
14455104	14455104	India	Systems, methods, and apparatus for foreign object detection loop based on inductive thermal sensing	201647034031				Filed	Application
14455105	14455105	Japan	Systems, methods, and apparatus for foreign object detection loop based on inductive thermal sensing	2015-567409				Filed	Application
14455106	14455106	Republic of Korea	Systems, methods, and apparatus for foreign object detection loop based on inductive thermal sensing	10-2016-7035096				Filed	Application
14455107	14455107	Patent Cooperation Treaty	Systems, methods, and apparatus for foreign object detection loop based on inductive thermal sensing	PCT/US2015/030148				inactive	Expired
14455108	14455108	United States	Methods and apparatus for timing and controlling device coupling and power transfer systems	14/461,033				Filed	Application
14455109	14455109	China P.R.	Methods and apparatus for timing and controlling device coupling and power transfer systems	201590042404				Filed	Application

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146143DE	146143IDF	Germany	SYSTEM AND METHOD FOR MULTI-COIL DUAL BACKBONE DYNAMIC INDUCTIVE POWER TRANSFER	15813213.4	EP3212456	5/9/2018	Granted	Granted
146143EP	146143IDF	European Patent Convention	SYSTEM AND METHOD FOR MULTI-COIL DUAL BACKBONE DYNAMIC INDUCTIVE POWER TRANSFER	15813213.4	EP3212456	5/9/2018	Granted	Granted
146143FR	146143IDF	France	SYSTEM AND METHOD FOR MULTI-COIL DUAL BACKBONE DYNAMIC INDUCTIVE POWER TRANSFER	15813213.4	EP3212456	5/9/2018	Granted	Granted
146143GB	146143IDF	Great Britain	SYSTEM AND METHOD FOR MULTI-COIL DUAL BACKBONE DYNAMIC INDUCTIVE POWER TRANSFER	15813213.4	EP3212456	5/9/2018	Granted	Granted
146143IN	146143IDF	India	SYSTEM AND METHOD FOR MULTI-COIL DUAL BACKBONE DYNAMIC INDUCTIVE POWER TRANSFER	201747017150			Filed	Application
146143JP	146143IDF	Japan	SYSTEM AND METHOD FOR MULTI-COIL DUAL BACKBONE DYNAMIC INDUCTIVE POWER TRANSFER	2017-551846	6325752	4/30/2018	Granted	Granted
146143WG	146143IDF	Patent Cooperation Treaty	SYSTEM AND METHOD FOR MULTI-COIL DUAL BACKBONE DYNAMIC INDUCTIVE POWER TRANSFER	PCT/US2015/0663267			inactive	Expired
147050	147050IDF	United States	Systems, methods, and apparatus for controlling the amount of charge provided to a charge-receiving element in a series-tuned resonant system	147070-295			Filed	Application
14705029	147050IDF	China P.R.	Systems, methods, and apparatus for controlling the amount of charge provided to a charge-receiving element in a series-tuned resonant system	201550067014.9			Filed	Application

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14705004	14705004P	European Patent	Systems, methods, and apparatus for controlling the amount of charging provided to a charge-receiving element in a series-tuned resonant system	15796693				Filed	Application
14705004	14705004P	India	Systems, methods, and apparatus for controlling the amount of charge provided to a charge-receiving element in a series-tuned resonant system	201747012754				Filed	Application
14705004	14705004P	Japan	Systems, methods, and apparatus for controlling the amount of charge provided to a charge-receiving element in a series-tuned resonant system	2017-253403				Filed	Application
14705004	14705004P	United States	SYSTEMS, METHODS, AND APPARATUS RELATED TO WIRELESS ELECTRIC VEHICLE CHARGING INCLUDING CONTROLLING THE AMOUNT OF CHARGE PROVIDED TO A CHARGE-RECEIVING ELEMENT	62/0976512				pending	pending
14705004	14705004P	Patent Cooperation Treaty	Systems, methods, and apparatus for controlling the amount of charge provided to a charge-receiving element in a series-tuned resonant system	62/0976512				pending	pending
15005988	15005988P	United States	Systems, methods, and apparatus for integrated tuning capacitors in charging coil structure	14/802,012	9,941,702	4/10/2018	Granted	Granted	Granted
15005988	15005988P	Brazil	Systems, methods, and apparatus for integrated tuning capacitors in charging coil structure	BR1120170095732				Filed	Application
15005988	15005988P	Canada	Systems, methods, and apparatus for integrated tuning capacitors in charging coil structure	2963153				Filed	Application

150059CN	150059IDF	China P.R.	Systems, methods, and apparatus for integrated tuning capacitors in charging coil structure	201580359864.3				Filed	Application
150059DE	150059IDF	Germany	Systems, methods, and apparatus for integrated tuning capacitors in charging coil structure	603015006893.9	EP3192141	12/20/2017	Granted		Granted
150059EP	150059IDF	European Patent Convention	Systems, methods, and apparatus for integrated tuning capacitors in charging coil structure	15794727.6	EP3192141	12/20/2017	Granted		Granted
150059ES	150059IDF	Spain	Systems, methods, and apparatus for integrated tuning capacitors in charging coil structure	15794727.6	EP3192141	12/20/2017	Granted		Granted
150059FI	150059IDF	Finland	Systems, methods, and apparatus for integrated tuning capacitors in charging coil structure	15794727.6	EP3192141	12/20/2017	Granted		Granted
150059FR	150059IDF	France	Systems, methods, and apparatus for integrated tuning capacitors in charging coil structure	15794727.6	EP3192141	12/20/2017	Granted		Granted
150059GB	150059IDF	Great Britain	Systems, methods, and apparatus for integrated tuning capacitors in charging coil structure	15794727.6	EP3192141	12/20/2017	Granted		Granted
150059HU	150059IDF	Hungary	Systems, methods, and apparatus for integrated tuning capacitors in charging coil structure	15794727.6	EP3192141	12/20/2017	Granted		Granted
150059ID	150059IDF	Indonesia	Systems, methods, and apparatus for integrated tuning capacitors in charging coil structure	P-00201702791				Filed	Application
150059IN	150059IDF	India	Systems, methods, and apparatus for integrated tuning capacitors in charging coil structure	201747010026				Filed	Application

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150059IT	150059IDF	Italy	Systems, methods, and apparatus for integrated tuning capacitors in charging coil structure	15794727.6	EP3192141	12/20/2017	Granted	Granted
150059JP	150059IDF	Japan	Systems, methods, and apparatus for integrated tuning capacitors in charging coil structure	2017-523590			Filed	Application
150059KR	150059IDF	Republic of Korea	Systems, methods, and apparatus for integrated tuning capacitors in charging coil structure	10-2017-7011827			Filed	Application
150059NL	150059IDF	Netherlands	Systems, methods, and apparatus for integrated tuning capacitors in charging coil structure	15794727.6	EP3192141	12/20/2017	Granted	Granted
150059PT	150059IDF	United States	SYSTEMS, METHODS, AND APPARATUS RELATED TO WIRELESS ELECTRIC VEHICLE CHARGING INCLUDING INTEGRATED TUNING CAPACITORS IN CHARGING COIL STRUCTURE	62/675,300			Inactive	Expired
150059WO	150059IDF	Patent Cooperation Treaty	Systems, methods, and apparatus for integrated tuning capacitors in charging coil structure	PCT/US2015/058176			Inactive	Expired
150059US	150059IDF	United States	Systems, methods, and apparatus for tuning object protection in wireless power transfer applications	14/501,559	9,483,300	5/29/2018	Granted	Granted
150059US	150059IDF	China, P. R.	Systems, methods, and apparatus for tuning object protection in wireless power transfer applications	20160055661.3			Filed	Application
150059US	150059IDF	Germany	Systems, methods, and apparatus for tuning object protection in wireless power transfer applications	602015010513.7	EP3192140	4/25/2018	Granted	Granted

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150326EP	150326EP	European Patent Convention	Systems, methods, and apparatus for forming object protection in wireless power transfer applications	15783753.8	EP3107402	4/27/2018	Granted	Granted
150326FR	150326EP	France	Systems, methods, and apparatus for forming object protection in wireless power transfer applications	15783753.8	EP3107402	4/25/2018	Granted	Granted
150326GB	150326EP	Great Britain	Systems, methods, and apparatus for forming object protection in wireless power transfer applications	15783753.8	EP3107402	4/25/2018	Granted	Granted
150326IN	150326EP	India	Systems, methods, and apparatus for forming object protection in wireless power transfer applications	20179708444		Filed	Application	Application
150326JP	150326EP	Japan	Systems, methods, and apparatus for forming object protection in wireless power transfer applications	2017-15-0308		Filed	Application	Application
150326KR	150326EP	United States	Systems, methods, and apparatus for forming object protection in wireless power transfer applications	63105-533		Filed	Application	Application
150326RU	150326EP	Patent Cooperation Treaty	Systems, methods, and apparatus for forming object protection in wireless power transfer applications	63105-533		Filed	Application	Application
150387	150387IDF	United States	METHODS AND APPARATUS FOR A MODULAR COIL HOLDER FOR AN EXTENDED WIRELESS CHARGING ROADWAY ASSEMBLY	15/002,204	10,027,147	7/17/2018	Granted	Granted
150387CN	150387IDF	China P.R.	Methods and apparatus for a modular coil holder for an extended wireless charging roadway assembly	201680006617.1		Filed	Application	Application
150387EP	150387IDF	European Patent Convention	Methods and apparatus for a modular coil holder for an extended wireless charging roadway assembly	16703410.7		Filed	Application	Application

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1503871N	1503871DF	India	Methods and apparatus for a modular coil holder for an extended wireless charging roadway assembly	2017/47019967				Filed	Application
1503871P	1503871DF	Japan	Methods and apparatus for a modular coil holder for an extended wireless charging roadway assembly	2017-535863				Filed	Application
1503871P1	1503871DF	United States	Methods and apparatus for a modular coil holder for an extended wireless charging roadway assembly	52/107 002				Inactive	Expired
1503871WO	1503871DF	Patent Cooperation Treaty	Methods and apparatus for a modular coil holder for an extended wireless charging roadway assembly	PCT/US2016/014515				Inactive	Expired
1503871A	1503871DF	United States	Systems, methods, and apparatus for locking object protection fencing extended functionality in wireless power transfer applications	15/817 811	30/015-735		7/5/2018	Granted	Granted
1503871CN	1503871DF	China P.R.	Transceivers for monitoring and detecting targets within a surveillance area	201592165-45.7				Filed	Application
1503871EP	1503871DF	European Patent Convention	Radio system with several transceivers for monitoring and detecting targets within a surveillance area	15/043 675				Filed	Application
1503871IN	1503871DF	India	Radio system with several transceivers for monitoring and detecting targets within a surveillance area	2017/47019967				Filed	Application
1503871JP	1503871DF	Japan	Surveillance area	2017-535876				Filed	Application

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150901477	150901400	United States	System, methods, and apparatus for limiting object protection having extended functionality in wireless power transfer applications	14/014,855				Active	Expired
150901480	150901400	Patent Cooperation Treaty	System and method for reducing leakage flux in wireless charging systems	PCT/US2015/061398				Active	Expired
150901	15090210F	United States	System and method for reducing leakage flux in wireless charging systems	14/846,394	9,923,486	3/20/2018	Granted		Granted
150902CN	15090210F	China P.R.	System and method for reducing leakage flux in wireless charging systems	201580048348.0				Filed	Application
150902DE	15090210F	Germany	System and method for reducing leakage flux in wireless charging systems	15767388.0	EP3192088	1/9/2019	Granted		Granted
150903EP	15090210F	European Patent Convention	System and method for reducing leakage flux in wireless charging systems	15767388.0	EP3192088	1/9/2019	Granted		Granted
150902FR	15090210F	France	System and method for reducing leakage flux in wireless charging systems	15767388.0	EP3192088	1/9/2019	Granted		Granted
150902GB	15090210F	Great Britain	System and method for reducing leakage flux in wireless charging systems	15767388.0	EP3192088	1/9/2019	Granted		Granted
150902IN	15090210F	India	System and method for reducing leakage flux in wireless charging systems	201747002517				Filed	Application
150902WO	15090210F	Patent Cooperation Treaty	System and method for reducing leakage flux in wireless charging systems	PCT/US2015/048974				Inactive	Expired
150919	15091900F	United States	Asymmetrically layered stacked cells and/or charged ferrite in wireless power transfer applications	14/831,997	9,912,172	1/6/2018	Granted		Granted
150919CN	15091900F	China P.R.	Asymmetrically layered stacked cells and/or charged ferrite in wireless power transfer applications	201580071631.7				Filed	Application

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150915EP	150915IDF	Unknown Patent Convention	Asymmetrically layered stacked coils and/or transformed ferrite in wireless power transfer applications	15020863.0			Filed	Application
150917IN	150917IDF	India	Asymmetrically layered stacked coils and/or transformed ferrite in wireless power transfer applications	100737020507			Filed	Application
150919JP	150919IDF	Japan	Asymmetrically layered stacked coils and/or transformed ferrite in wireless power transfer applications	2017-536879			Filed	Application
150919JP	150919IDF	United States	Asymmetrically layered stacked coils in wireless power transfer applications	67435786			Inactive	Expired
150919JP	150919IDF	Patent Cooperation Treaty	Asymmetrically layered stacked coils and/or transformed ferrite in wireless power transfer applications	PCT/US2015/086135			Inactive	Expired
150977	150977IDF	United States	SYSTEMS, APPARATUS AND METHOD FOR ADAPTIVE WIRELESS POWER TRANSFER	14/666,251	10,046,659	8/14/2018	Granted	Granted
150977CN	150977IDF	China P.R., European Patent Convention	SYSTEMS, APPARATUS AND METHOD FOR ADAPTIVE WIRELESS POWER TRANSFER	2015.80869099.3			Filed	Application
150977EP	150977IDF		SYSTEMS, APPARATUS AND METHOD FOR ADAPTIVE WIRELESS POWER TRANSFER	15794763.1			Filed	Application
150977IN	150977IDF	India	SYSTEMS, APPARATUS AND METHOD FOR ADAPTIVE WIRELESS POWER TRANSFER	201747015398			Filed	Application
150977JP	150977IDF	Japan	SYSTEMS, APPARATUS AND METHOD FOR ADAPTIVE WIRELESS POWER TRANSFER	2017-531253			Filed	Application
150977JP	150977IDF	United States	Systems, apparatus and method for adaptive wireless power transfer	62/094,839			Inactive	Expired
150977WO	150977IDF	Patent Cooperation Treaty	SYSTEMS, APPARATUS AND METHOD FOR ADAPTIVE WIRELESS POWER TRANSFER	PCT/US2015/059032			Inactive	Expired

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1511127P	1511127D	France	SYSTEMS, METHODS, AND APPARATUS FOR DETECTING FERROMAGNETIC FOREIGN OBJECTS IN A PREDETERMINED SPACE	1511100.0	EP318104	9/19/2018	Granted	Granted
1511128P	1511128D	Great Britain	SYSTEMS, METHODS, AND APPARATUS FOR DETECTING FERROMAGNETIC FOREIGN OBJECTS IN A PREDETERMINED SPACE	1511100.0	EP318104	9/19/2018	Granted	Granted
1511129P	1511129D	Japan	SYSTEMS, METHODS, AND APPARATUS FOR DETECTING FERROMAGNETIC FOREIGN OBJECTS IN A PREDETERMINED SPACE	2014-013673		Filed	Filed	Application
1511130P	1511130D	United States	SYSTEMS, METHODS, AND APPARATUS FOR DETECTING FERROMAGNETIC FOREIGN OBJECTS IN A PREDETERMINED SPACE	2017-333641		Filed	Filed	Application
1511131P	1511131D	United States	Systems, methods, and apparatus for detecting ferromagnetic foreign objects in a predetermined space	62,058,223		Issued	Issued	Issued
1511134P	1511134D	Patent Cooperation Treaty	SYSTEMS, METHODS, AND APPARATUS FOR DETECTING FERROMAGNETIC FOREIGN OBJECTS IN A PREDETERMINED SPACE	EP3180750B1		Issued	Issued	Issued
1511190	1511190D	United States	Systems, methods, and apparatus implementing hybrid symmetric and asymmetric control for soft switching in wireless power transfer applications	10/809,942		Filed		Application
1511190CN	1511190D	China P.R.	Systems, methods, and apparatus implementing hybrid symmetric and asymmetric control for soft switching in wireless power transfer applications	201680045746.8		Filed		Application

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151190WO	151190IDF	Patent Cooperation Treaty	Systems, methods, and apparatus implementing hybrid symmetric and asymmetric control for soft switching in wireless power transfer applications	PCT/US2016/039861					inactive	Expired	
1511905	1511905IDF	United States	Clover leaf and butterfly coil structures for flat wireless coupling profiles in wireless power transfer applications	14,811,904					Filed	Application instructed to enter national phase	
1511906IN	1511906IN	Chinese P.R.	Clover leaf and butterfly coil structures for flat wireless coupling profiles in wireless power transfer applications	201550008410.9					Filed	Application	
1511908EP	1511908IDF	European Patent Convention	Clover leaf and butterfly coil structures for flat wireless coupling profiles in wireless power transfer applications	14,715,350.3					Filed	Application	
1511909IN	1511909IN	India	Clover leaf and butterfly coil structures for flat wireless coupling profiles in wireless power transfer applications	2017IN031929					Filed	Application	
1511909JP	1511909IDF	Japan	Clover leaf and butterfly coil structures for flat wireless coupling profiles in wireless power transfer applications	2017-542105					Filed	Application	
151190992	1511909IDF	United States	Clover leaf and butterfly coil structures for flat wireless coupling profiles in wireless power transfer applications	9,271,373.95					inactive	Expired	
1511909WO	1511909IDF	Patent Cooperation Treaty	Clover leaf and butterfly coil structures for flat wireless coupling profiles in wireless power transfer applications	PCT/US2016/013620					inactive	Expired	
1511990	1511990IDF	United States	Methods and systems for compatible operation between a wireless power transfer system and wirelessly communicating vehicle systems	14,958,273					12/19/2017	Granted	Granted

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151890BR	151890IDF	Israel	Methods and systems for compatible operation between a wireless power transfer system and wirelessly communicating vehicle systems	BR1120180254223				Filed	Application
151890CN	151890IDF	China P.R.	Methods and systems for compatible operation between a wireless power transfer system and wirelessly communicating vehicle systems	201680052813.4				Filed	Application
151890EP	151890IDF	European Patent Convention	Methods and systems for compatible operation between a wireless power transfer system and wirelessly communicating vehicle systems	16766758.3				Filed	Application
151890IN	151890IDF	India	Methods and systems for compatible operation between a wireless power transfer system and wirelessly communicating vehicle systems	201847013503				Filed	Application
151890JP	151890IDF	Japan	Methods and systems for compatible operation between a wireless power transfer system and wirelessly communicating vehicle systems	2018-513668				Filed	Application
151890KR	151890IDF	Republic of Korea	Methods and systems for compatible operation between a wireless power transfer system and wirelessly communicating vehicle systems	10-2018-7010501				Filed	Application

151800WC	151800IDF	Patent Cooperation Treaty	Methods and systems for wireless power transfer between a wireless power transfer system and wirelessly communicating vehicle systems	PLT/US2016/050109				Inactive	Expired
152003	152003IDF	United States	Sensor coil geometries with improved sensitivity for metallic object detection in a predetermined space	14/918,054	10,122,190	11/6/2016	Granted		
152063IN	152063IDF	China P.R.	Sensor coil geometries with improved sensitivity for metallic object detection in a predetermined space	201580002100.3			Filed	Expired	
152063BT	152063IDF	European Patent Convention	Sensor coil geometries with improved sensitivity for metallic object detection in a predetermined space	15722653.4			Inactive	Abandoned	
152063IN	152063IDF	China P.R.	Sensor coil geometries with improved sensitivity for metallic object detection in a predetermined space	201547002200.2			Filed	Application	
152063WC	152063IDF	Patent Cooperation Treaty	Sensor coil geometries with improved sensitivity for metallic object detection in a predetermined space	PLT/US2016/013909				Inactive	Expired
152097	152097IDF	United States	Methods and apparatus utilizing multi-filar alignment assistance in wireless power transfer applications	14/858,369				Filed	Allowed
152097BR	152097IDF	Brazil	Methods and apparatus utilizing multi-filar alignment assistance in wireless power transfer applications	BR11201300054320				Filed	Application
152097CN	152097IDF	China P.R.	Methods and apparatus utilizing multi-filar alignment assistance in wireless power transfer applications	201680053793.0				Filed	Application

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152097EP	152097IDF	European Patent Convention	Methods and apparatus utilizing multi-flar alignment assistance in wireless power transfer applications	16760891.3				Filed	Application
152097IN	152097IDF	India	Methods and apparatus utilizing multi-flar alignment assistance in wireless power transfer applications	201847012453				Filed	Application
152097JP	152097IDF	Japan	Methods and apparatus utilizing multi-flar alignment assistance in wireless power transfer applications	2018-512620				Filed	Application
152097KR	152097IDF	Republic of Korea	Methods and apparatus utilizing multi-flar alignment assistance in wireless power transfer applications	10-2018-7610751				Filed	Application
152097WO	152097IDF	Patent Cooperation Treaty	Methods and apparatus utilizing multi-flar alignment assistance in wireless power transfer applications	PCT/US2016/049219				Inactive	Expired
152097US	152097IDF	United States	Systems, methods, and apparatus for serial electronics integration in vehicle pads for wireless power transfer applications	14,861,925	\$ 316,383	13/14/2017	Granted		
152097BR	152097IDF	Brazil	Systems, methods, and apparatus for serial electronics integration in vehicle pads for wireless power transfer applications	BR1120170111537				Filed	Application
152097CA	152097IDF	Canada	Systems, methods, and apparatus for serial electronics integration in vehicle pads for wireless power transfer applications	2574014				Filed	Application
152097TW	152097IDF	China P.R.	Systems, methods, and apparatus for serial electronics integration in vehicle pads for wireless power transfer applications	20160911234.7				Filed	Application

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152756CN	152756IDF	China P.R.	INTEGRATION OF POSITIONING ANTENNAS IN WIRELESS INDUCTIVE CHARGING POWER APPLICATIONS	201680026749.0				Filed	Application
152756EP	152756IDF	European Patent Convention	INTEGRATION OF POSITIONING ANTENNAS IN WIRELESS INDUCTIVE CHARGING POWER APPLICATIONS	16723051.7				Filed	Allowed
152756IN	152756IDF	India	INTEGRATION OF POSITIONING ANTENNAS IN WIRELESS INDUCTIVE CHARGING POWER APPLICATIONS	201747032123				Filed	Application
152756JP	152756IDF	Japan	INTEGRATION OF POSITIONING ANTENNAS IN WIRELESS INDUCTIVE CHARGING POWER APPLICATIONS	2017-358419				Filed	Application
152756P1	152756IDF	United States	Integration of solenoid positioning antennas in wireless inductive charging power applications	62/159,875				Inactive	Expired
152756WO	152756IDF	Patent Cooperation Treaty	INTEGRATION OF POSITIONING ANTENNAS IN WIRELESS INDUCTIVE CHARGING POWER APPLICATIONS	PCT/US2016/030444				Inactive	Expired
152841	152841IDF	United States	Devices, systems, and methods using reactive power injection for active tuning electric vehicle charging systems	15/166,871	8/16/2018	8/16/2018	8/16/2018	Granted	Granted
152841CN	152841IDF	China P.R.	Devices, systems, and methods using reactive power injection for active tuning electric vehicle charging systems	201630355800.4				Filed	Application
152841EP	152841IDF	European Patent Convention	Devices, systems, and methods using reactive power injection for active tuning electric vehicle charging systems	16/409370				Filed	Application
152841IN	152841IDF	India	Devices, systems, and methods using reactive power injection for active tuning electric vehicle charging systems	201747156575				Filed	Application

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15284195	15284110F	United States	Devices, systems, and methods using reactive power injection for active tuning electric vehicle charging systems	03/19/2011				inactive	Expired
15284196	15284110F	Patent Cooperation Treaty	Devices, systems, and methods using reactive power injection for active tuning electric vehicle charging systems	PCT/US2010/028018				inactive	Expired
1531123	15313310F	United States	METHODS AND APPARATUS UTILIZING A BIPOLEAR DOUBLE D POWER TRANSFER APPLICATIONS	14/865,428	9,876,366	1/23/2018	Granted		Granted
153133CN	15313310F	China P.R.	Methods and apparatus utilizing a bipolar double D vehicle coupler in wireless power transfer applications	201680055295 E				Filed	Application
153133WO	15313310F	Patent Cooperation Treaty	Methods and apparatus utilizing a bipolar double D vehicle coupler in wireless power transfer applications	PCT/US2016/049213				inactive	Expired
153268	15315510F	United States	METHODS AND APPARATUS FOR THERMAL DISSIPATION IN VEHICLE PAIRS FOR WIRELESS POWER TRANSFER APPLICATIONS	14/338,625				Filed	Application
153268WO	15315510F	Patent Cooperation Treaty	Methods and apparatus for thermal dissipation in vehicle pairs for wireless power transfer applications	PCT/US2016/053354				inactive	Expired
153537	15353710F	United States	Integration of solenoid positioning antennas in wireless inductive charging power applications	15/003,521				Filed	Application
153537CN	15353710F	China P.R.	Integration of solenoid positioning antennas in wireless inductive charging power applications	301680028435 A				Filed	Application

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153537EP	153537IDF	European Patent Convention	Integration of solenoid positioning antennas in wireless inductive charging power applications	16723588.6				Filed	Application
153537IN	153537IDF	India	Integration of solenoid positioning antennas in wireless inductive charging power applications	201747035206				Filed	Application
153537JP	153537IDF	Japan	Integration of solenoid positioning antennas in wireless inductive charging power applications	2017-557154				Filed	Application
153537P1	153537IDF	United States	Integration of solenoid positioning antennas in wireless inductive charging power applications	62/163,036				Inactive	Expired
153537WO	153537IDF	Patent Cooperation Treaty	Integration of solenoid positioning antennas in wireless inductive charging power applications	PCT/US2016/0340015				Inactive	Expired
153721	153721IDF	United States	Methods and apparatus utilizing time division access of multiple power modules in living object detection for wireless power transfer applications	14/935,036				Filed	Application
153721CN	153721IDF	China P.R.	Methods and apparatus utilizing time division access of multiple power modules in living object detection for wireless power transfer applications	201610028459.9				Filed	Application
153721EP	153721IDF	European Patent Convention	Methods and apparatus utilizing time division access of multiple power modules in living object detection for wireless power transfer applications	62/120,482				Filed	Application

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153721W	153721DF	None	Methods and apparatus utilizing time division access of multiple radar modules in living object detection for wireless power transfer applications	2017-05-1574				Filed	403953001
153721P	153721DF	Japan	Methods and apparatus utilizing time division access of multiple radar modules in living object detection for wireless power transfer applications	2017-555644				Filed	Application
153721P1	153721DF	United States	Methods and apparatus utilizing time division access of multiple radar modules in living object detection for wireless power transfer applications	521555-555				Pending	Applied
153721W2	153721DF	Patent Cooperation Treaty	Methods and apparatus utilizing time division access of multiple radar modules in living object detection for wireless power transfer applications	PCT/JP2016/032041				Pending	Submitted
153722	153722DF	United States	Methods and apparatus utilizing digital signal processing of ultra wide band radar signals for living object detection in wireless power transfer applications	14/935,177				Filed	Application
153722CN	153722DF	China P.R.	METHODS AND APPARATUS UTILIZING DIGITAL SIGNAL PROCESSING OF ULTRA WIDE BAND RADAR SIGNALS FOR LIVING TARGET DETECTION	201650022251.3				Filed	Application
153722EP	153722DF	European Patent Convention	METHODS AND APPARATUS UTILIZING DIGITAL SIGNAL PROCESSING OF ULTRA WIDE BAND RADAR SIGNALS FOR LIVING TARGET DETECTION	16723871.6				Filed	Application

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153722JN	153722JDF	India	METHODS AND APPARATUS UTILIZING DIGITAL SIGNAL PROCESSING OF ULTRA WIDE BAND RADAR SIGNALS FOR LIVING TARGET DETECTION	201747055529					Filed	Application
153722P1	153722IDF	United States	Methods and apparatus utilizing digital signal processing of ultra wide band radar signals for living object detection in wireless power transfer applications	62/165,443					Inactive	Expired
153722WG	153722IDF	Patent Cooperation Treaty	METHODS AND APPARATUS UTILIZING DIGITAL SIGNAL PROCESSING OF ULTRA WIDE BAND RADAR SIGNALS FOR LIVING TARGET DETECTION	PCT/US2016/030044					Inactive	Expired
153925P1	153925IDF	United States	Systems, methods and apparatuses for guidance and alignment in electric vehicles wireless inductive charging systems	62/165,561					Inactive	Expired
153925J1	153925IDF	United States	Systems, methods and apparatuses for guidance and alignment in electric vehicles wireless inductive charging systems	15/069,559					Filed	Application
153925U1WG	153925IDF	Patent Cooperation Treaty	Systems, methods and apparatuses for guidance and alignment in electric vehicles wireless inductive charging systems	PCT/US2016/034165					Inactive	Expired
153925J1G	153925IDF	United States	Systems, methods and apparatuses for guidance and alignment in electric vehicles wireless inductive charging systems	15/069,570					Filed	Application
153925J12B5	153925IDF	Brazil	Systems, methods and apparatuses for guidance and alignment in electric vehicles wireless inductive charging systems	BR1120170276000					Filed	Application

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157119WO	157119IDF	Patent Cooperation Treaty	Method and apparatus for directing metallic objects in a predetermined space via inductive magnetic coupling	15/154,286	15/154,286	15/154,286	15/154,286	15/154,286	Expired
157146	157146IDF	United States	METHODS AND APPARATUS FOR REDUCING FLUX CANCELLATION IN FERRITE OF DOUBLE COUPLE INDUCTIVE POWER TRANSFER SYSTEMS	15/154,286	15/154,286	15/154,286	15/154,286	15/154,286	Application
157146WO	157146IDF	Patent Cooperation Treaty	METHODS AND APPARATUS FOR REDUCING FLUX CANCELLATION IN FERRITE OF DOUBLE COUPLE INDUCTIVE POWER TRANSFER SYSTEMS	15/154,286	15/154,286	15/154,286	15/154,286	15/154,286	Expired
157170	157170IDF	United States	SYSTEMS AND METHODS FOR THERMAL MANAGEMENT IN WIRELESS POWER TRANSFER	15/154,286	15/154,286	15/154,286	15/154,286	15/154,286	Granted
157170WO	157170IDF	Patent Cooperation Treaty	SYSTEMS AND METHODS FOR THERMAL MANAGEMENT IN WIRELESS POWER TRANSFER	15/154,286	15/154,286	15/154,286	15/154,286	15/154,286	Expired
160507	160507IDF	United States	SYSTEMS AND METHODS FOR IDENTIFYING AN IDEAL OPERATION FREQUENCY FOR WIRELESS POWER TRANSFER	15/134,136	15/134,136	15/134,136	15/134,136	15/134,136	Granted
160507WO	160507IDF	Patent Cooperation Treaty	SYSTEMS AND METHODS FOR IDENTIFYING AN IDEAL OPERATION FREQUENCY FOR WIRELESS POWER TRANSFER	15/134,136	15/134,136	15/134,136	15/134,136	15/134,136	Expired
160576	160576IDF	United States	DOUBLE COIL BASE PRO MANUFACTURED FOR REDUCED EMISSIONS IN FLUX MOUNTED AND BURIED WIRELESS POWER TRANSFER APPLICATIONS	15/128,324	15/128,324	15/128,324	15/128,324	15/128,324	Allowed
160576WO	160576IDF	Patent Cooperation Treaty	DOUBLE COIL BASE PRO MANUFACTURED FOR REDUCED EMISSIONS IN FLUX MOUNTED AND BURIED WIRELESS POWER TRANSFER APPLICATIONS	15/128,324	15/128,324	15/128,324	15/128,324	15/128,324	Application

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160661	160661IDF	United States	BASE SIDE VEHICLE IDENTIFICATION USING VEHICLE CONTROLLER SWITCHING FREQUENCY	15/491,016			Filed	Allowed
160661CN	160661IDF	China P.R.	BASE SIDE VEHICLE IDENTIFICATION USING VEHICLE CONTROLLER SWITCHING FREQUENCY	201780039473.2			Filed	Application
160661PI	160661IDF	United States	BASE SIDE VEHICLE IDENTIFICATION USING VEHICLE CONTROLLER SWITCHING FREQUENCY	62/754,344			Inactive	Expired
160661WO	160661IDF	Patent Cooperation Treaty	BASE SIDE VEHICLE IDENTIFICATION USING VEHICLE CONTROLLER SWITCHING FREQUENCY	PCT/US2017/034962			Filed	Application
160876	160876IDF	United States	DYNAMIC MUTUAL SENSING FOREIGN OBJECT DETECTION COOPS	15/164,732	10,181,759	1/15/2019	Terminated	Granted
160876WO	160876IDF	Patent Cooperation Treaty	DYNAMIC MUTUAL SENSING FOREIGN OBJECT DETECTION COOPS	PCT/US2017/047029			Filed	Application
160876	160876IDF	United States	APPARATUS AND METHODS FOR REDUCING MAGNETIC FIELD EMISSIONS BETWEEN WIRELESS POWER TRANSMITTERS	15/179,954			Filed	Application
160876WO	160876IDF	Patent Cooperation Treaty	APPARATUS AND METHODS FOR REDUCING MAGNETIC FIELD EMISSIONS BETWEEN WIRELESS POWER TRANSMITTERS	PCT/US2017/032663			Filed	Application
161903	161903IDF	United States	WIRELESS FOREIGN OBJECT DETECTION (FOOD) FOR ARRAY BASED	15/264,939	10,124,557	12/13/2018	Granted	Granted
161903WO	161903IDF	Patent Cooperation Treaty	WIRELESS FOREIGN OBJECT DETECTION (FOOD) FOR ARRAY BASED	PCT/US2017/027086			Filed	Application
162039	162039IDF	United States	TWISTED WIRE FOR POWER CHARGING	15/275,094	10,144,302	12/4/2018	Granted	Granted

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16269WQ	16269IDF	Patent Cooperation Treaty	TWISTED WIRE FOR POWER CHARGING	PCT/US2017/047331				Filed	Application
1627111	1627110DF	United States	METHODS AND APPARATUS FOR POSITIONING A VEHICLE USING POWERWIRE OBJECT DETECTION	15/359,749				Filed	Application
162715WQ	162715IDF	Patent Cooperation Treaty	METHODS AND APPARATUS FOR POSITIONING A VEHICLE USING FOREIGN OBJECT DETECTION	PCT/US2017/045758				Filed	Application
162317	162317IDF	United States	METHOD AND APPARATUS FOR POSITIONING A VEHICLE	15/449,718				Filed	Application
162317CN	162317IDF	China P.R.	METHOD AND APPARATUS FOR POSITIONING A VEHICLE	201780016060.4				Filed	Application
162317EP	162317IDF	European Patent Convention	METHOD AND APPARATUS FOR POSITIONING A VEHICLE	17714935.8				Filed	Application
162317P1	162317IDF	United States	METHODS AND APPARATUS FOR POSITIONING A VEHICLE	62/343,736				Inactive	Expired
162317P2	162317IDF	United States	SYSTEM AND METHOD FOR POSITIONING A VEHICLE	62/305,411				Inactive	Expired
162317WQ	162317IDF	Patent Cooperation Treaty	METHOD AND APPARATUS FOR POSITIONING A VEHICLE	PCT/US2017/023890				Inactive	Expired
162607	162607IDF	United States	METHODS AND APPARATUS FOR POSITIONING A VEHICLE	15/595,144	10,029,577		7/24/2018	Granted	Granted
162607CN	162607IDF	China P.R.	METHODS AND APPARATUS FOR POSITIONING A VEHICLE	10160037761.9				Filed	Application
162607P1	162607IDF	United States	METHOD AND APPARATUS FOR POSITIONING A VEHICLE	62/350,853				Inactive	Expired
162607WQ	162607IDF	Patent Cooperation Treaty	METHODS AND APPARATUS FOR POSITIONING A VEHICLE	PCT/US2017/023890				Filed	Application
162730	162730IDF	United States	DETERMINING POWER ELECTRONICS FEASIBILITY WITH SINGLE TURN MAGNETIC SIMULATION DATA	15/272,672				Filed	Application

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164460WO	164460IDF	Patent Cooperation Treaty	MULTI-COIL BASE PAD WITH ANGLED STRUCTURE	PCT/US2017/046143			Filed	Application
165501	165501IDF	United States	Foreign Object Detection for Performance Wireless Charge	15/198,094			Filed	Application
165502	165502IDF	United States	Vehicle-Side Beacon Mode for Wireless Electric Vehicle Charging	15/491,697			Filed	Application
170074	170074IDF	United States	MULTI-SUPPLY SYNCHRONIZATION FOR WIRELESS CHARGING	15/401,897			Filed	Application
170084WO	170084IDF	Patent Cooperation Treaty	MULTI-SUPPLY SYNCHRONIZATION FOR WIRELESS CHARGING	15/145,507			Filed	Application
170107	170107IDF	United States	VEHICLE ALIGNMENT FOR WIRELESS CHARGING	15/658,915			Filed	Application
170110	170110IDF	United States	STATIC POWER CREATING FOR DYNAMIC CHARGING	15/497,241			Filed	Application
170112	170112IDF	United States	METHOD FOR INCREASING PAD EFFICIENCY AND ROBUSTNESS	15/605,569			Filed	Application
170112PI	170112IDF	United States	Increasing Pad Efficiency and Robustness	62/437,009			Inactive	Expired
170112WO	170112IDF	Patent Cooperation Treaty	MAGNETIC STRUCTURE FOR INDUCTIVE POWER TRANSMISSION WITH IMPROVED EFFICIENCY	PCT/US2017/064279			Filed	Application
170120	170120IDF	United States	WIRELESS CHARGING TRANSMITTER WITH POSITION OBJECT AND LIDAR OBJECT DETECTION SYSTEMS	15/400,585			Filed	Filed
170166	170166IDF	United States	RIPPLE CURRENT REDUCTION FOR WIRELESS ELECTRIC VEHICLE CHARGING	15/709,514			Filed	Application
170200PI	170200IDF	United States	MULTI-MODE WIRELESS POWER RECEIVER CONTROL	62/496,030			Pending	Expired
170200WJ	170200IDF	United States	MULTI-MODE WIRELESS POWER RECEIVER CONTROL	15/607,105			Inactive	Withdrawn
17020012	170200IDF	United States	MULTI-MODE WIRELESS POWER RECEIVER CONTROL	15/711,844			Filed	Application

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171029-02 WO	17020907	Patent Cooperation Treaty	MULTI-MODE WIRELESS POWER RECEIVED CONTROL	PCT/US2014/033557			Filed	Application
1710644	17064410F	United States	Ferrite Arrangement in a Wireless Power-Transfer Structure To Mitigate Dimensional Tolerance Effects on Performance	15/760,004			Filed	Application
1710906	17090610F	United States	SYSTEM AND METHOD FOR REDUCING INTERFERENCE IN A WIRELESS POWER TRANSFER SYSTEM	15/663,582			Filed	Application
1711049	171104910F	United States	LIVING-OBJECT PROTECTION SYSTEM ANTENNA STRUCTURE	15/663,670			Filed	Allowed
1711353	171135310F	United States	REDUCING MAGNETIC FLUX DENSITY FROM MATERIALS A WIRELESS CHARGING PAD	15/700,014			Filed	Application
1711353	171135310F	United States	Reducing Magnetic Flux Density Proximate to a WIRELESS	15/436,924			Inactive	Suited
1711353 WO	171135310F	Patent Cooperation Treaty	MAGNETIC STRUCTURE FOR INDUCTIVE POWER TRANSMISSION WITH IMPROVED EFFICIENCY	PCT/US2017/069187			Filed	Application
1711398	171139810F	United States	WIRELESS CHARGING MAGNETIC PARAMETER DETERMINATION	15/666,927			Filed	Application
1711398 WO	171139810F	Patent Cooperation Treaty	WIRELESS CHARGING MAGNETIC PARAMETER DETERMINATION	PCT/US2016/039458			Filed	Application
1711561	171156110F	United States	LATERAL POSITIONING FOR WIRELESS ELECTRIC VEHICLE CHARGING	15/649,184			Filed	Application
1711636	171163610F	United States	REINFORCED BASE PAD COVER	15/638,916			Filed	Application
1711796	171179610F	United States	FOREIGN OBJECT DETECTION USING HEAT SENSITIVE MATERIAL AND INDUCTIVE SENSING	15/620,545			Filed	Application
1712541	171254110F	United States	FOREIGN OBJECT DETECTION USING HEAT SENSITIVE MATERIAL	15/457,462			Inactive	Suited

17726WC	1727340F	Patent Cooperation Treaty	FOREIGN OBJECT DETECTION USING HEAT SENSITIVE MATERIAL AND INDUCTIVE COUPLING	2011/017,067/035			Filed	Application
173356	1733661DF	United States	ADAPTIVE ADC CONTROL FOR LIVING OBJECT PROTECTION	15/833,678			Filed	Application
173366P1	1733661DF	United States	ADAPTIVE ADC CONTROL FOR LIVING OBJECT PROTECTION	62/478,368			Inactive	Expired
174530	1745301DF	United States	BALANCED COIL FOR MULTI-FLUX WINDING	16/140,836			Filed	Abolition
174539P1	1745301DF	United States	MAGNETIC COIL FOR WIRELESS POWER TRANSFER	62/563,770			Inactive	Expired
174858	1748581DF	United States	METHODS AND APPARATUS FOR SHIELDING IN WIRELESS TRANSFER POWER SYSTEMS	16/009,063			Filed	Application
174858P1	1748581DF	United States	METHODS AND APPARATUS FOR SHIELDING IN WIRELESS TRANSFER POWER SYSTEMS	62/520,461			Inactive	Expired
174971	1749711DF	United States	METHODS FOR WINDING OF ELECTROMAGNETIC FIELDS PRODUCED BY WIRELESS ELECTRIC INDUCTIVE CHARGING SYSTEMS	15/943,346			Filed	Application
175011	1750111DF	United States	PASSIVE FLUX BRIDGE FOR CHARGING ELECTRIC VEHICLES	15/973,577			Filed	Application
175696	1756961DF	United States	INTERFACE FLUX CONTROL FOR INDUCTIVE WIRELESS CHARGING SYSTEMS	15/846,670			Filed	Application
175696WC	1756961DF	Patent Cooperation Treaty	SURFACE FLUX CONTROL FOR INDUCTIVE WIRELESS CHARGING SYSTEMS	40/1352018/059570			Filed	Application
175892	1758921DF	United States	FOREIGN OBJECT DETECTION CIRCUIT USING CURRENT MEASUREMENT	16/226,156			Filed	Application
175892P1	1758921DF	United States	FOREIGN OBJECT DETECTION CIRCUIT USING CURRENT MEASUREMENT	62/620,622			Filed	Application
175901	1759011DF	United States	DC TO AC POWER CONVERSION USING A WIRELESS POWER SYSTEM	15/948,544			Filed	Application

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176074P1	176074IDF	United States	MAGNETIC COIL FOR WIRELESS POWER TRANSFER	62/632,809				Filed	Application - Instructed to lapse via action (no conversion planned)
176422	176422IDF	United States	Hybrid Foreign Object Detection and Positioning Systems	63/753,645				Filed	Application
176421P1	176421IDF	United States	BALLOON SUSPENSION FOR A SHORT-RANGE POSITIONING SYSTEM	63/756,025				Pending	Expired
176422P1	176422IDF	United States	BEACON SUBSYSTEM FOR A SHORT-RANGE POSITIONING SYSTEM	63/756,847				Pending	Expired
176422P1	176422IDF	United States	HYBRID FOREIGN OBJECT DETECTION AND POSITIONING SYSTEM	63/756,610				Pending	Expired
176421P1	176421IDF	United States	HYBRID FOREIGN OBJECT DETECTION AND POSITIONING SYSTEM	63/756,618				Filed	Application
176421P1	176421IDF	United States	HYBRID FOREIGN OBJECT DETECTION AND POSITIONING SYSTEM	63/756,618				Filed	Application
176572	176572IDF	United States	THERMAL FEEDBACK FOR POWER TRANSFER OPTIMIZATION	16/246,985				Filed	Application
176572P1	176572IDF	United States	WIRELESS POWER TRANSFER APPARATUS	62/627,131				Filed	Application
176572P2	176572IDF	United States	WIRELESS POWER TRANSFER APPARATUS	62/638,385				Filed	Application
180285	180285IDF	United States	ELECTRICAL FEEDBACK INTEGRATED FILTERING FOR INDUCTIVE POWER TRANSFER SYSTEMS	16/001,845				Filed	Application
181095	181095IDF	United States	FLUSH-MOUNT WIRELESS CHARGING POWER-TRANSFER SYSTEM	16/172,559				Filed	Application
181095P1	181095IDF	United States	FLUSH-MOUNT WIRELESS CHARGING POWER-TRANSFER SYSTEM	62/595,012				inactive	Expired

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181705	181595:DP	United States	METHOD AND SYSTEM FOR REDUCING MAGNETIC FIELD EMISSIONS FROM COUPLED COILS	62/082,950	Filed	Application
182022P1	182022:IDF	United States	COIL TURN STACKING ARRANGEMENT FOR INDUCTIVE WIRELESS CHARGING SYSTEM	62/627,139	Filed	Application - Instructed to lapse via inaction (no conversion planned)
182740	182740:IDF	United States	400KHz DETECTION AND SIGNATURE METHODS FOR SAFE OPERATION OF A WFLC SYSTEM	62/246,253	Filed	Application
182740	182740:IDF	United States	WIRELESS ELECTRIC VEHICLE CHARGING SYSTEM	62/246,253	Filed	Application
183277	183277:IDF	United States	EXTENDED FOREIGN OBJECT DETECTION SIGNAL PROCESSING		To be Filed	To be Filed
183277P1	183277:IDF	United States	EXTENDED FOREIGN OBJECT DETECTION SIGNAL PROCESSING	62/675,127	Filed	Application
183597	183597:IDF	United States	ACTIVE HARMONIC CANCELLATION		To be Filed	To be Filed
183754	183754:IDF	United States	Extended-Range Positioning System Based on Foreign Object Detection		To be Filed	To be Filed
183754P1	183754:IDF	United States	Extended-Range Positioning System Based on Foreign Object Detection	62/712,884	Filed	Application
183817P1	183817:IDF	United States	FOREIGN OBJECT DETECTION CIRCUIT USING INITIAL FRONT USING INITIAL IMPEDANCE SENSING	62/745,485	Filed	Application
183817	183817:IDF	United States	FOREIGN OBJECT DETECTION CIRCUIT USING INITIAL IMPEDANCE SENSING		To be Filed	To be Filed
183925	183925:IDF	United States	METHOD AND SYSTEM FOR MOVING A MAGNETIC FIELD HOT SPOT OF A WIRELESS POWER TRANSFER DEVICE	62/197,805	Filed	Application
183925	183925:IDF	United States	METHODS AND SYSTEMS FOR MULTI-PHASE COIL CONTROL		To be Filed	To be Filed

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