

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
 Stylesheet Version v1.2

EPAS ID: PAT5235204

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
SUNPOWER CORPORATION	08/09/2018

RECEIVING PARTY DATA

Name:	ENPHASE ENERGY, INC.
Street Address:	1420 North McDowell Boulevard
City:	Petaluma
State/Country:	CALIFORNIA
Postal Code:	94954

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16039080

CORRESPONDENCE DATA

Fax Number: (732)935-7122

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.

Phone: 732-935-7100
 Email: lzaveta@mtiplaw.com
 Correspondent Name: MOSER TABOADA/SHERRY BERGMANN
 Address Line 1: 1030 BROAD STREET
 Address Line 2: SUITE 203
 Address Line 4: SHREWSBURY, NEW JERSEY 07702

ATTORNEY DOCKET NUMBER:	EEB1039CON
NAME OF SUBMITTER:	SHERRY A. BERGMANN
SIGNATURE:	/SHERRY A. BERGMANN/
DATE SIGNED:	11/13/2018

Total Attachments: 43

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INTELLECTUAL PROPERTY ASSIGNMENT AGREEMENT

THIS INTELLECTUAL PROPERTY ASSIGNMENT AGREEMENT (this “Intellectual Property Assignment”) is entered into and effective as of August 9, 2018 (the “Effective Date”) by and between SunPower Corporation, a Delaware corporation (the “Seller”), and Enphase Energy, Inc., a Delaware corporation (the “Buyer”). Capitalized terms used herein and not otherwise defined herein have the meanings given to such terms in the Purchase Agreement (as defined below).

WHEREAS, the Buyer and Seller are parties to that certain Asset Purchase Agreement, dated as of June 12, 2018 (the “Purchase Agreement”); and

WHEREAS, the execution and delivery of this Intellectual Property Assignment is contemplated by Section 1.3(b)(iv) of the Purchase Agreement.

NOW, THEREFORE, in consideration of the promises and mutual agreements set forth in the Purchase Agreement the parties hereto hereby agree as follows:

1. Assignment. For true and lawful consideration paid to it by the Buyer, the receipt and sufficiency of which is hereby acknowledged, the Seller hereby sells, assigns, transfers, conveys and delivers to the Buyer, and the Buyer hereby accepts, free and clear of all Liens: (a) the seller intellectual property set forth on Schedule 1 attached hereto (the “Seller Intellectual Property”), (b) the right to file federal, state and foreign applications for registration to secure the Buyer’s rights in any Seller Intellectual Property that are unregistered, (c) all claims, demands and rights of action, both statutory and based upon common law, that the Seller has or might have by reason of any infringement, misappropriation, dilution or other violation of the Seller Intellectual Property prior to, on or after the date of this Intellectual Property Assignment, together with the right to prosecute such claims, demands and rights of action in the Buyer’s own name, (d) all of the Seller’s right, title and interest in and to all income, royalties, damages (including consequential damages), proceeds and payments now or hereafter due and/or payable with respect to the Seller Intellectual Property, including, without limitation, the right to recover for past, present or future infringement, misappropriation, dilution or other violation of the Seller Intellectual Property and (e) any and all corresponding rights that, now or hereafter, may be secured throughout the world.

2. The Buyer’s Use and Enjoyment. The rights, title and interest assigned under Section 1 shall be for the Buyer’s own use and enjoyment, and for the use and enjoyment of the Buyer’s successors, assigns or other legal representatives, as fully and entirely as the same would have been held and enjoyed by the Seller if this Intellectual Property Assignment had not been made.

3. Further Assurance.

(a) The Seller shall from time to time after the delivery of this Intellectual Property Assignment, at the Buyer’s reasonable request and without further consideration, execute and deliver such other instruments of conveyance and transfer, consents, bills of sale, assignments and assurances presented by the Buyer as reasonably necessary to more effectively consummate, confirm or evidence the sale, assignment,

transfer, conveyance and delivery to the Buyer of the Seller Intellectual Property as contemplated under this Intellectual Property Assignment and the Purchase Agreement.

(b) The Seller hereby authorizes and requests the Register of Copyrights, the United States Commissioner of Patents and Trademarks, and the corresponding entities or agencies in any applicable foreign country, and any applicable Internet domain name registrars, to record the Buyer as the owner of the Seller Intellectual Property.

4. Conflict with the Purchase Agreement. In the event of a conflict between the terms and conditions of this Intellectual Property Assignment and the terms and conditions of the Purchase Agreement, the terms and conditions of the Purchase Agreement shall govern, supersede and prevail. This Intellectual Property Assignment hereby incorporates by reference the Purchase Agreement and said Purchase Agreement shall be considered a part of this Intellectual Property Assignment as if fully set forth herein.

5. Representations and Warranties. Each party hereby acknowledges and agrees that none of the representations, warranties, covenants, rights or remedies of any party under the Purchase Agreement shall be deemed to be enlarged, modified or altered in any way by the execution and acceptance of this Intellectual Property Assignment.

6. Notices. Any notice, request or other document to be given hereunder to any party hereto shall be given in the manner specified in Section 12.6 of the Purchase Agreement.

7. Severability of Provisions. Any term or provision of this Intellectual Property Assignment that is invalid or unenforceable in any situation in any jurisdiction shall not affect the validity or enforceability of the remaining terms and provisions of this Intellectual Property Assignment or the validity or enforceability of the offending term or provision in any other situation or in any other jurisdiction. If the final judgment of a court of competent jurisdiction declares that any term or provision of this Intellectual Property Assignment is invalid or unenforceable, the parties agree that the body making the determination of invalidity or unenforceability shall have the power to reduce the scope, duration or area of the term or provision, to delete specific words or phrases, or to replace any invalid or unenforceable term or provision with a term or provision that is valid and enforceable and that comes closest to expressing the intention of the invalid or unenforceable term or provision, and this Intellectual Property Assignment shall be enforceable as so modified.

8. Amendments. The parties may agree in writing to amend or waive any provision of this Intellectual Property Assignment at any time. No amendment of any provision of this Intellectual Property Assignment shall be valid unless the same shall be in writing and signed by all of the parties.

9. Counterparts. This Intellectual Property Assignment may be executed in two or more counterparts, each of which shall for all purposes be deemed an original and all of which shall constitute one and the same agreement. The exchange of a fully executed Intellectual Property Assignment (in counterparts or otherwise) by electronic transmission or .pdf format shall be sufficient to bind the parties to the terms of this Intellectual Property Assignment.

10. Governing Law. This Intellectual Property Assignment and any disputes under this Intellectual Property Assignment shall be governed by and construed in accordance with the internal Laws of the State of California without giving effect to any choice or conflict of law provision or rule (whether of the State of California or any other jurisdiction) that would cause the application of Laws of any jurisdiction other than those of the State of California.

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, the parties have executed this Intellectual Property Assignment as of the date first above written.

SUNPOWER CORPORATION

By: _____



Name: Manavendra S. Sial

Title: Executive Vice President and Chief Financial Officer

ENPHASE ENERGY, INC.

By: _____

Name: Eric Branderiz

Title: Chief Financial Officer

[Signature Page to Intellectual Property Assignment Agreement]

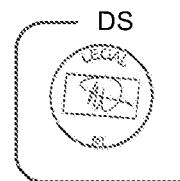
IN WITNESS WHEREOF, the parties have executed this Intellectual Property Assignment as of the date first above written.

SUNPOWER CORPORATION

By: _____

Name: Manavendra S. Sial

Title: Executive Vice President and Chief Financial Officer



ENPHASE ENERGY, INC.

DocuSigned by:
By: Eric Branderiz
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Name: Eric Branderiz

Title: Chief Financial Officer

[Signature Page to Intellectual Property Assignment Agreement]

**PATENT
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SCHEDULE 1 to the INTELLECTUAL PROPERTY ASSIGNMENT

Seller Intellectual Property

Docket Number	Application Status	Application Number	Filing Date	Patent Number	Issue Date	Pub Number	Pub Date	App Title
B1000US	Granted	12560975	16-Sep-2009	8450985	28-May-2013	US 2011-0062935 A1	17-Mar-2011	Energy Recovery Circuit
B1001AU	Granted	AU2011337144	28-Mar-2013	2011337144	06-Nov-2014	WO 2012074593A1	07-Jun-2012	Variable Duty Cycle Switching with Imposed Delay
B1001EP-A	Abandoned	11844250.8	09-Sep-2011					VARIABLE DUTY CYCLE SWITCHING WITH IMPOSED DELAY
B1001GB	Abandoned	GB 1309868.6	03-Jun-2013	2498914	22-Oct-2014	GB 2498914	31-Jul-2013	Variable Duty Cycle Switching with Imposed Delay
B1001US	Granted	12960208	03-Dec-2010	8508964	13-Aug-2013	US-2011-0222326 A1	15-Sep-2011	Variable Duty Cycle Switching with Imposed Delay
B1001US1	Granted	13948216	23-Jul-2013	9048740	02-Jun-2015	US 2013-0308345 A1	21-Nov-2013	Variable Duty Cycle Switching with Imposed Delay
B1001US2	Granted	14/690,523	20-Apr-2015	9496794	15-Nov-2016	US-2015-0229221 A1	13-Aug-2015	REGULATION OF POWERTRAIN CONVERTER CIRCUIT
B1001WO	Published	PCT/US11/050 974	09-Sep-2011			WO 2012/074593	07-Jun-2012	Variable Duty Cycle Switching with Imposed Delay
B1002US	TBA-Granted	13052358	21-Mar-2011	8823356	02-Sep-2014	US 2012-0242322 A1	27-Sep-2012	Supply Voltage Auto-Sensing

Docket Number	Application Status	Application Number	Filing Date	Patent Number	Issue Date	Pub Number	Pub Date	App Title
B1003US	Granted	13162532	16-Jun-2011	8767421	01-Jul-2014	US 2012-0320641 A1	20-Dec-2012	POWER CONVERTER BUS CONTROL METHOD, SYSTEM, AND ARTICLE OF MANUFACTURE
B1004US	Granted	12714860	01-Mar-2010	8120933	21-Feb-2012	US 2011-0211379 A1	01-Sep-2011	Power Converter with Reverse Recovery Avoidance
B1004US1	Granted	13355718	23-Jan-2012	8451638	28-May-2013	US 2012-0155128 A1	21-Jun-2012	Power Converter with Reverse Recovery Avoidance
B1005EP-A	Abandoned	118041300	28-Jun-2011					COMMUNICATION WITHIN A POWER INVERTER USING TRANSFORMER VOLTAGE FREQUENCY
B1005US	Granted	12832199	08-Jul-2010	8634216	21-Jan-2014	US 2012-0008348 A1	12-Jan-2012	Communication Within a Power Inverter Using Voltage Transformer Frequency
B1005US1	Granted	14159084	20-Jan-2014	9509232	29-Nov-2016	US 2014-0133197 A1	15-May-2014	Communication Within a Power Inverter Using Voltage Transformer Frequency
B1005US2	Granted	15355843	18-Nov-2016	9887639	06-Feb-2018	US-2017-0070156- A1	09-Mar-2017	COMMUNICATION WITHIN A POWER INVERTER USING TRANSFORMER VOLTAGE FREQUENCY
B1005WO	Published	PCT/US2011/042190	28-Jun-2011			WO 2012/006092	12-Jan-2012	Communication Within a Power Inverter Using Voltage Transformer Frequency
B1006AU	Granted	2012322789	11-Oct-2012	2012322789	06-Apr-2017			Printed Circuit Board Enclosure and Assembly
B1006EP-A	Abandoned	12839459.0	11-Oct-2012					ELECTRICAL INSULATOR CASING

Docket Number	Application Status	Application Number	Filing Date	Patent Number	Issue Date	Pub Number	Pub Date	App Title
B1006GB	TBA- Granted	1405831-7	11-Oct-2012	2509279	10-Feb-2016	GB 2509279	25-Jun-2014	Printed Circuit Board Enclosure and Assembly
B1006US	Granted	13292251	09-Nov-2011	8964401	24-Feb-2015	US 2013-0094151	18-Apr-2013	Electrical Insulator Casing
B1006US1	Granted	14610258	30-Jan-2015	9681565	13-Jun-2017	US-2015-0282365-	01-Oct-2015	Electrical Insulator Casing
B1006USP	Expired	61547516	14-Oct-2011			A1		
B1006WO	Published	PCT/US12/59672	11-Oct-2012			WO 2013/055866	18-Apr-2013	Printed Circuit Board Enclosure and Assembly
B1009US	Granted	12868581	25-Aug-2010	9035633	19-May-2015			Switching Power Converter Control
B1009USP	Expired	61290837	29-Dec-2009					
B1010EP-A	Abandoned	10841648.8	28-Dec-2010					POWER POINT TRACKING
B1010TW	Abandoned	99145852	24-Dec-2010					Power Point Tracking
B1010US	Granted	12972398	17-Dec-2010	9342088	17-May-2016	US 2011-0160930	30-Jun-2011	Power Point Tracking
B1010US1	Published	15152039	11-May-2016			US 2016-0254673	01-Sep-2016	Power Point Tracking
B1010USP	Expired	61291613	31-Dec-2009					Power Point Tracking
B1010USP1	Expired	61316750	23-Mar-2010					Inverter Interaction

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B1010WO	Published	PCT/TUUS2010/0062263	28-Dec-2010		WO 2011/082184	07-Jul-2011		Power Point Tracking
B1011US	Abandoned	12983270	31-Dec-2010					Systemic Optimization of Solar Arrays
B1011US1	Granted	13005482	12-Jan-2011	9819182	14-Nov-2017	US-2018-0097360-A1	05-Apr-2018	Systemic Optimization of Photovoltaic Apparatus
B1011US2	Published	15800268	01-Nov-2017					Systemic Optimization of Solar Arrays
B1011USP	Expired	61294464	12-Jan-2010					Phase Leg with Depletion-Mode Device
B1012US	Granted	09521487	09-Mar-2000	6331794	18-Dec-2001			Multi-Mode Power Point Tracking
B1014US	Granted	13091026	20-Apr-2011	8754627	17-Jun-2014			Inverter Input Stage Control
B1014USP	Expired	61326201	20-Apr-2010					
B1019US	Granted	13751376	28-Jan-2013	9253935	02-Feb-2016	US 2014-0168927-A1	19-Jun-2014	Micro-Inverter Solar Panel Mounting
B1019US1	Published	14976720	21-Dec-2015			US-2016-0112003-A1	21-Apr-2016	Micro-Inverter Solar Panel Mounting
B1019USP	Expired	61737365	14-Dec-2012					Micro-Inverter Solar Panel Mounting
B1021US	Granted	11/615074	22-Dec-2006	7994657	09-Aug-2011	US-2008-0150484-A1	26-Jun-2008	MODULAR SYSTEM FOR UNATTENDED ENERGY GENERATION AND STORAGE

Docket Number	Application Status	Application Number	Filing Date	Patent Number	Issue Date	Pub Number	Pub Date	App Title
B1021US1	Granted	13/092916	23-Apr-2011	8350411	08-Jan-2013	US-2011-0199044-A1	18-Aug-2011	MODULAR SYSTEM FOR UNATTENDED ENERGY GENERATION AND STORAGE
B1022US	TBA- Granted	11/626911	25-Jan-2007	7681090	16-Mar-2010	US-2008-0183338-A1	31-Jul-2008	RIPPLE CORRELATION CONTROL BASED ON LIMITED SAMPLING
B1023US	Granted	11/627731	26-Jan-2007	7663342	16-Feb-2010	US-2008-0179961-A1	31-Jul-2008	APPARATUS AND METHOD FOR CONTROLLING A POWER SUPPLY
B1023US1	Granted	12/699410	03-Feb-2010	7982434	19-Jul-2011	US-2010-0283326-A1	11-Nov-2010	APPARATUS AND METHOD FOR CONTROLLING A POWER SUPPLY
B1024US	Granted	11/849827	04-Sep-2007	7945413	17-May-2011	US-2009-0059631-A1	05-Mar-2009	VOLTAGE-SENSED SYSTEM AND METHOD FOR ANTI-ISLANDING PROTECTION OF GRID-CONNECTED INVERTERS
B1024US1	Granted	13/050592	17-Mar-2011	8423312	16-Apr-2013	US-2011-0164440-A1	07-Jul-2011	VOLTAGE-SENSED SYSTEM AND METHOD FOR ANTI-ISLANDING PROTECTION OF GRID-CONNECTED INVERTERS
B1025CA	Abandoned	2702250	09-Oct-2008		2702250	16-Apr-2009	METHODS FOR MINIMIZING DOUBLE-FREQUENCY RIPPLE POWER IN SINGLE-PHASE POWER CONDITIONERS	

Docket Number	Application Status	Application Number	Filing Date	Patent Number	Issue Date	Pub Number	Pub Date	App Title
B1025CH-A	Abandoned	08837893.0	09-Oct-2008	2198505	18-Mar-2015	2198505	23-Jun-2010	METHODS FOR MINIMIZING DOUBLE-FREQUENCY RIPPLE POWER IN SINGLE-PHASE POWER CONDITIONERS
B1025CN	TBA-Granted	200880118731.9	09-Oct-2008	ZL200880118731.9	20-May-2015	101939898	05-Jan-2011	METHODS FOR MINIMIZING DOUBLE-FREQUENCY RIPPLE POWER IN SINGLE-PHASE POWER CONDITIONERS
B1025DE	TBA-Granted	08837893.0	09-Oct-2008	2198505	18-Mar-2015	2198505	23-Jun-2010	METHODS FOR MINIMIZING DOUBLE-FREQUENCY RIPPLE POWER IN SINGLE-PHASE POWER CONDITIONERS
B1025EP	Granted	08837893.0	09-Oct-2008	2198505	18-Mar-2015	2198505	23-Jun-2010	METHODS FOR MINIMIZING DOUBLE-FREQUENCY RIPPLE POWER IN SINGLE-PHASE POWER CONDITIONERS
B1025FR	TBA-Granted	08837893.0	09-Oct-2008	2198505	18-Mar-2015	2198505	23-Jun-2010	METHODS FOR MINIMIZING DOUBLE-FREQUENCY RIPPLE POWER IN SINGLE-PHASE POWER CONDITIONERS
B1025GB	Abandoned	08837893.0	09-Oct-2008	2198505	18-Mar-2015	2198505	23-Jun-2010	METHODS FOR MINIMIZING DOUBLE-FREQUENCY RIPPLE POWER IN SINGLE-PHASE POWER CONDITIONERS

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B1025IE-A	Abandoned	08837893.0	09-Oct-2008	2198505	18-Mar-2015	2198505	23-Jun-2010	METHODS FOR MINIMIZING DOUBLE-FREQUENCY RIPPLE POWER IN SINGLE-PHASE POWER CONDITIONERS
B1025JP	Granted	2010-529052	09-Oct-2008	5747504	22-May-2015	2011-501635	06-Jan-2011	METHODS FOR MINIMIZING DOUBLE-FREQUENCY RIPPLE POWER IN SINGLE-PHASE POWER CONDITIONERS
B1025LI-A	Abandoned	08837893.0	09-Oct-2008	2198505	18-Mar-2015	2198505	23-Jun-2010	METHODS FOR MINIMIZING DOUBLE-FREQUENCY RIPPLE POWER IN SINGLE-PHASE POWER CONDITIONERS
B1025US	Granted	11/871015	11-Oct-2007	7755916	13-Jul-2010	US-2009-0097283-A1	16-Apr-2009	METHODS FOR MINIMIZING DOUBLE-FREQUENCY RIPPLE POWER IN SINGLE-PHASE POWER CONDITIONERS
B1025US1	Granted	12/794034	04-Jun-2010	8004865	23-Aug-2011	US-2010-0238690-A1	23-Sep-2010	METHODS FOR MINIMIZING DOUBLE-FREQUENCY RIPPLE POWER IN SINGLE-PHASE POWER CONDITIONERS
B1025US2	Granted	13/215527	23-Aug-2011	8325499	04-Dec-2012	US-2011-0305050-A1	15-Dec-2011	METHODS FOR MINIMIZING DOUBLE-FREQUENCY RIPPLE POWER IN SINGLE-PHASE POWER CONDITIONERS

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B1025USP	Inactive	61/392026	11-Oct-2010					METHODS FOR MINIMIZING DOUBLE-FREQUENCY RIPPLE POWER IN SINGLE-PHASE POWER CONDITIONERS
B1025WO	Inactive	US2008/079396	09-Oct-2008			WO2009/049079	16-Apr-2009	METHODS FOR MINIMIZING DOUBLE-FREQUENCY RIPPLE POWER IN SINGLE-PHASE POWER CONDITIONERS
B1028CN	Inactive	200880127151.6	21-Dec-2008			101946394	12-Jan-2011	DISTRIBUTED ENERGY CONVERSION SYSTEMS
B1028EP	Inactive	08864982.7	21-Dec-2008			2232689	29-Sep-2010	DISTRIBUTED ENERGY CONVERSION SYSTEMS
B1028IN	TBA-Pending	2405/KOLNP/2010	21-Dec-2008			4772011	25-Nov-2011	DISTRIBUTED ENERGY CONVERSION SYSTEMS
B1028KR	Abandoned	10-2010-7015800	21-Dec-2008	10-1235990	15-Feb-2013	10-2010-0092974	23-Aug-2010	DISTRIBUTED ENERGY CONVERSION SYSTEMS
B1028KR1	Inactive	10-2012-7004459	21-Feb-2012			10-2012-0039722	25-Apr-2012	DISTRIBUTED ENERGY CONVERSION SYSTEMS
B1028US	Granted	12/340715	20-Dec-2008	9263895	16-Feb-2016	US20090160259	25-Jun-2009	DISTRIBUTED ENERGY CONVERSION SYSTEMS
B1028US1	Granted	14/988,497	05-Jan-2016	9608448	28-Mar-2017	20160211672	21-Jul-2016	DISTRIBUTED ENERGY CONVERSION SYSTEMS
B1028US2	Published	15/439493	22-Feb-2017			US-2017-0163042-A1	08-Jun-2017	DISTRIBUTED ENERGY CONVERSION SYSTEMS

Docket Number	Application Status	Application Number	Filing Date	Patent Number	Issue Date	Pub Number	Pub Date	App Title
B1028WO	Expired	US08/87882	21-Dec-2008		82721	02-Jul-2009		DISTRIBUTED ENERGY CONVERSION SYSTEMS
B1029CN	Abandoned	200980155811.6	18-Dec-2009	200980155811.6	28-Jan-2015	102301578A	28-Dec-2011	ENERGY CONVERSION SYSTEMS WITH POWER CONTROL
B1029EP-A	Abandoned	09833861.9	18-Dec-2009					ENERGY CONVERSION SYSTEMS WITH POWER CONTROL
B1029IN	Inactive	2857/KOLNPF/2011	18-Dec-2009		04/2012	27-Jan-2012		ENERGY CONVERSION SYSTEMS WITH POWER CONTROL
B1029KR	Inactive	10-2011-7016567	18-Dec-2009		10-2011-0104525	22-Sep-2011		ENERGY CONVERSION SYSTEMS WITH POWER CONTROL
B1029TW	Inactive	98143647	18-Dec-2009					ENERGY CONVERSION SYSTEMS WITH POWER CONTROL
B1029US	Granted	12/368990	10-Feb-2009	8796884	05-Aug-2014	US-2010-0157638-A1	24-Jun-2010	ENERGY CONVERSION SYSTEMS WITH POWER CONTROL
B1029US1	Published	14/451189	04-Aug-2014		US-2015-0117067-A1	30-Apr-2015		ENERGY CONVERSION SYSTEMS WITH POWER CONTROL
B1029US2	Abandoned	12/368987	10-Feb-2009		US-2010-0157632-A1	24-Jun-2010		ENERGY CONVERSION SYSTEMS WITH POWER CONTROL
B1029WO	Published	US09/68871	18-Dec-2009		71855	24-Jun-2010		ENERGY CONVERSION SYSTEMS WITH POWER CONTROL
B1030EP	Published	10804871.1	07-Jul-2010		2460242	06-Jun-2012		APPARATUS FOR CONVERTING DIRECT CURRENT TO ALTERNATING CURRENT

Docket Number	Application Status	Application Number	Filing Date	Patent Number	Issue Date	Pub Number	Pub Date	App Title
B1030US	Granted	12563499	21-Sep-2009	8279642	02-Oct-2012	US-2011-0026282-A1	03-Feb-2011	APPARATUS FOR CONVERTING DIRECT CURRENT TO ALTERNATING CURRENT
B1030US1	Granted	13/633518	02-Oct-2012	9093919	28-Jul-2015	US-2013-0027982-US2015333617-A1	31-Jan-2013	APPARATUS FOR CONVERTING DIRECT CURRENT TO ALTERNATING CURRENT
B1030US2	Granted	14/810022	27-Jul-2015	9722504	01-Aug-2017	us2015333617	19-Nov-2015	APPARATUS FOR CONVERTING DIRECT CURRENT TO ALTERNATING CURRENT
B1030USP	Inactive	61/230546	31-Jul-2009					APPARATUS FOR CONVERTING DIRECT CURRENT TO ALTERNATING CURRENT
B1030WO	Inactive	US2010/041149	07-Jul-2010			WO2011/014337	03-Feb-2011	APPARATUS FOR CONVERTING DIRECT CURRENT TO ALTERNATING CURRENT
B1031DE	Granted	10804872.9	07-Jul-2010	2460243	18-Oct-2017	2460243	06-Jun-2012	APPARATUS AND METHOD FOR CONTROLLING DC-AC POWER CONVERSION
B1031EP	Granted	10804872.9	07-Jul-2010	2460243	18-Oct-2017	2460243	06-Jun-2012	APPARATUS AND METHOD FOR CONTROLLING DC-AC POWER CONVERSION
B1031FR	Granted	10804872	07-Jul-2010	2460243	18-Oct-2017	2460243	06-Jun-2012	APPARATUS AND METHOD FOR CONTROLLING DC-AC POWER CONVERSION

Docket Number	Application Status	Application Number	Filing Date	Patent Number	Issue Date	Pub Number	Pub Date	App Title
B1031US	Granted	12563495	21-Sep-2009	8482947	09-Jul-2013	US-2011-0026281-A1	03-Feb-2011	APPARATUS AND METHOD FOR CONTROLLING DC-AC POWER CONVERSION
B1031US1	Granted	13936744	08-Jul-2013	9225256	29-Dec-2015	US-2014-0003100-A1	02-Jan-2014	APPARATUS AND METHOD FOR CONTROLLING DC-AC POWER CONVERSION
B1031US2	Granted	14962,673	08-Dec-2015	9806628	31-Oct-2017	US-2016/0164427	09-Jun-2016	APPARATUS AND METHOD FOR CONTROLLING DC-AC POWER CONVERSION
B1031WO	Inactive	US2010/041161	07-Jul-2010		WO2011/014338	03-Feb-2011		APPARATUS AND METHOD FOR CONTROLLING DC-AC POWER CONVERSION
B1033CA	Abandoned	2777364	08-Oct-2010		2777364			POWER INVERTER DOCKING SYSTEM FOR PHOTOVOLTAIC MODULES
B1033CH-A	Abandoned	10771599.7	08-Oct-2010	2489078	24-Aug-2016	2489078	22-Aug-2012	Power inverter docking system for photovoltaic modules
B1033DE	Granted	10771599.7	08-Oct-2010	2489078	24-Aug-2016	2489078	22-Aug-2012	POWER INVERTER DOCKING SYSTEM FOR PHOTOVOLTAIC MODULES
B1033EP	Granted	10771599.7	08-Oct-2010	2489078	24-Aug-2016	2489078	22-Aug-2012	POWER INVERTER DOCKING SYSTEM FOR PHOTOVOLTAIC MODULES
B1033EPI	Published	16184695.1	18-Aug-2016		3113357	04-Jan-2017		POWER INVERTER DOCKING SYSTEM FOR PHOTOVOLTAIC MODULES

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B1033FR	Granted	10771599.7	08-Oct-2010	2489078	24-Aug-2016	2489078	22-Aug-2012	POWER INVERTER DOCKING SYSTEM FOR PHOTOVOLTAIC MODULES
B1033GB-A	Abandoned	10771599.7	08-Oct-2010	2489078	24-Aug-2016	2489078	22-Aug-2012	Power inverter docking system for photovoltaic modules
B1033IE-A	Abandoned	10771599.7	08-Oct-2010	2489078	24-Aug-2016	2489078	22-Aug-2012	Power inverter docking system for photovoltaic modules
B1033LI-A	Abandoned	10771599.7	08-Oct-2010	2489078	24-Aug-2016	2489078	22-Aug-2012	Power inverter docking system for photovoltaic modules
B1033NL	Granted	10771599.7	08-Oct-2010	2489078	24-Aug-2016	2489078	22-Aug-2012	POWER INVERTER DOCKING SYSTEM FOR PHOTOVOLTAIC MODULES
B1033US	Granted	12/609742	30-Oct-2009	8462518	11-Jun-2013	US-2011-0083733-A1	14-Apr-2011	POWER INVERTER DOCKING SYSTEM FOR PHOTOVOLTAIC MODULES
B1033US1	Granted	13/915165	11-Jun-2013	8929094	06-Jan-2015	US-2013-0271926-A1	17-Oct-2013	POWER INVERTER DOCKING SYSTEM FOR PHOTOVOLTAIC MODULES
B1033US2	Granted	14/589655	05-Jan-2015	9627555	18-Apr-2017	US-2015-0122305-A1	07-May-2015	POWER INVERTER DOCKING SYSTEM FOR PHOTOVOLTAIC MODULES
B1033US3	Published	15/376068	12-Dec-2016			US-2017-0093333-A1	30-Mar-2017	POWER INVERTER DOCKING SYSTEM FOR PHOTOVOLTAIC MODULES
B1033WO	Inactive	US2010/052057	08-Oct-2010			WO2011/046836	21-Apr-2011	POWER INVERTER DOCKING SYSTEM FOR PHOTOVOLTAIC MODULES

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B1034USD	Granted	29375595	24-Sep-2010	D666974	11-Sep-2012			Y-JUNCTION MODULE
B1035USD	Granted	29375598	24-Sep-2010	D644609	06-Sep-2011			FEMALE CONNECTOR
B1036USD	Granted	29375599	24-Sep-2010	D644610	06-Sep-2011			MALE CONNECTOR
B1038AU	Granted	2011316727	11-Oct-2011	2011316727	27-Nov-2014			APPARATUS AND METHOD FOR CONTROLLING A POWER INVERTER
B1038AU1	Granted	2014262251	14-Nov-2014	2014262251	23-Jun-2016			APPARATUS AND METHOD FOR CONTROLLING A POWER INVERTER
B1038EP-A	Abandoned	11833230.3	11-Oct-2011					APPARATUS AND METHOD FOR CONTROLLING A POWER INVERTER
B1038GB	Abandoned	13064639	11-Oct-2011	GB2497064	05-Aug-2015	GB2497064	29-May-2013	APPARATUS AND METHOD FOR CONTROLLING A POWER INVERTER
B1038US	Granted	12902083	11-Oct-2010	8279649	02-Oct-2012	US-2012-0087165-A1	12-Apr-2012	APPARATUS AND METHOD FOR CONTROLLING A POWER INVERTER
B1038US1	Granted	13633785	02-Oct-2012	8817510	26-Aug-2014	US-2013-0027998-A1	31-Jan-2013	APPARATUS AND METHOD FOR CONTROLLING A POWER INVERTER
B1038WO	Inactive	US2011/055687	11-Oct-2011			WO2012/051144	19-Apr-2012	APPARATUS AND METHOD FOR CONTROLLING A POWER INVERTER

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B1039EP-A	Abandoned	11833228.7	11-Oct-2011					SYSTEM AND METHOD FOR ESTABLISHING COMMUNICATION WITH AN ARRAY OF INVERTERS
B1039US	Granted	12/902046	11-Oct-2010	9160408	13-Oct-2015	20120089260	12-Apr-2012	SYSTEM AND METHOD FOR ESTABLISHING COMMUNICATION WITH AN ARRAY OF INVERTERS
B1039US1	Published	14/872,886	01-Oct-2015			US-2016-0020827	21-Jan-2016	SYSTEM AND METHOD FOR ESTABLISHING COMMUNICATION WITH AN ARRAY OF INVERTERS
B1039WO	Inactive	US2011/055685	11-Oct-2011			WO2012/051142	31-May-2012	SYSTEM AND METHOD FOR ESTABLISHING COMMUNICATION WITH AN ARRAY OF INVERTERS
B1040US	Granted	12/907800	19-Oct-2010	8860242	14-Oct-2014			POWER-LINE COMMUNICATION COUPLING
B1040US1	Granted	14/513859	14-Oct-2014	9419438	16-Aug-2016	US-2015-0163074-A1	11-Jun-2015	POWER-LINE COMMUNICATION COUPLING
B1041US	Granted	12/907741	19-Oct-2010	9692319	27-Jun-2017			POWER SYSTEM ISLANDING DETECTION WITH WAVEFORM FITTING
B1042US	Granted	12/940068	05-Nov-2010	8624561	07-Jan-2014			POWER CONVERSION HAVING ENERGY STORAGE WITH DYNAMIC REFERENCE
B1043US	Granted	12/955894	29-Nov-2010	9467063	11-Oct-2016	2012-0134189	31-May-2012	INVERTER ARRAY CONTROL

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B1044US	TBA- Granted	12/982798	30-Dec-2010	8824178	02-Sep-2014			PARALLEL POWER CONVERTER TOPOLOGY
B1045US	Granted	12/983237	31-Dec-2010	9077202	07-Jul-2015			POWER CONVERTER WITH SERIES ENERGY STORAGE
B1046AU	Granted	2011336974	18-Nov-2011	2011336974	29-Jul-2016			INVERTER ARRAY WITH LOCALIZED INVERTER CONTROL
B1046EP-A	Abandoned	11845377.8	18-Nov-2011					INVERTER ARRAY WITH LOCALIZED INVERTER CONTROL
B1046GB	Abandoned	1309459.4	18-Nov-2011	GB2498911	26-Aug-2015	GB2498911	31-Jul-2013	INVERTER ARRAY WITH LOCALIZED INVERTER CONTROL
B1046US	Granted	13/030118	17-Feb-2011	8842454	23-Sep-2014	US-2012-0134186-A1	31-May-2012	INVERTER ARRAY WITH LOCALIZED INVERTER CONTROL
B1046WO	Inactive	US2011/061364	18-Nov-2011			WO2012/074786	07-Jun-2012	INVERTER ARRAY WITH LOCALIZED INVERTER CONTROL
B1047AU	Granted	2012249559	27-Apr-2012	2012249559	23-Feb-2017			MULTI-STAGE POWER INVERTER
B1047EP-A	Abandoned	12/776279.7	27-Apr-2012					METHOD AND SYSTEM FOR CONTROLLING A MULTI-STAGE POWER INVERTER
B1047US	Granted	13/095190	27-Apr-2011	9065354	23-Jun-2015	US-2012-0275196-A1	01-Nov-2012	MULTI-STAGE POWER INVERTER
B1047US1	Granted	13/095179	27-Apr-2011	8611107	17-Dec-2013	US-2011-0261601-A1	27-Oct-2011	MULTI-STAGE POWER INVERTER
B1047US2	Granted	14/714,891	18-May-2015	9647574	09-May-2017	US-2015-0249405-A1	03-Sep-2015	MULTI-STAGE POWER INVERTER

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B1047WO	Inactive	US2012/0353392	27-Apr-2012		WO2012/149274	01-Nov-2012		MULTI-STAGE POWER INVERTER
B1048EP-A	Abandoned	12776751.5	27-Apr-2012					CONFIGURABLE POWER SUPPLY ASSEMBLY
B1048US	Granted	13/180176	11-Jul-2011	8193788	05-Jun-2012	US-2011-0267859-A1	03-Nov-2011	MODULAR PHOTOVOLTAIC POWER SUPPLY
B1048US1	Granted	13/180168	11-Jul-2011	8599587	03-Dec-2013	US-2011-0267855-A1	03-Nov-2011	MODULAR PHOTOVOLTAIC POWER SUPPLY
B1048US2	Granted	13/180170	11-Jul-2011	8174856	08-May-2012	US-2011-0267858-A1	03-Nov-2011	MODULAR PHOTOVOLTAIC POWER SUPPLY
B1048US3	Granted	13/309909	02-Dec-2011	8456876	04-Jun-2013	US-2012-0075894-A1	29-Mar-2012	MODULAR PHOTOVOLTAIC POWER SUPPLY
B1048US4	Granted	13/407305	28-Feb-2012	8461813	11-Jun-2013	US-2013-0016544-A1	17-Jan-2013	MODULAR PHOTOVOLTAIC POWER SUPPLY
B1048US5	Granted	14/089425	25-Nov-2013	9263183	16-Feb-2016	US 2014-0084702-A1	27-Mar-2014	MODULAR PHOTOVOLTAIC POWER SUPPLY ASSEMBLY
B1048US6	Published	14/988,514	05-Jan-2016			2016-0134233-A1	12-May-2016	MODULAR PHOTOVOLTAIC POWER SUPPLY ASSEMBLY
B1048USP	Inactive	61/479844	27-Apr-2011					MODULAR PHOTOVOLTAIC POWER SUPPLY
B1048WO	Inactive	US2012/035544	27-Apr-2012		WO2012/149387	01-Nov-2012		MODULAR PHOTOVOLTAIC POWER SUPPLY

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B1049US	Granted	13/324027	13-Dec-2011	8,922,185	30-Dec-2014	US-2013-0016536-A1	17-Jan-2013	DEVICE AND METHOD FOR GLOBAL MAXIMUM POWER POINT TRACKING
B1049US1	Granted	14552131	24-Nov-2014	9477247	25-Oct-2016	US-2015-0212535-A1	30-Jul-2015	DEVICE AND METHOD FOR GLOBAL MAXIMUM POWER POINT TRACKING
B1049US2	TBA-Pending	15/273235	22-Sep-2016			US-2017-0012437-A1	12-Jan-2017	DEVICE AND METHOD FOR GLOBAL MAXIMUM POWER POINT TRACKING
B1049US3	Published	15796228	27-Oct-2017		0054066	22-Feb-2018		DEVICE AND METHOD FOR GLOBAL MAXIMUM POWER POINT TRACKING
B1049USP	Inactive	61/506602	11-Jul-2011					DEVICE AND METHOD FOR GLOBAL MAXIMUM POWER POINT TRACKING
B1050US	Granted	13/251890	03-Oct-2011	9660451	23-May-2017			ISLANDED OPERATION OF DISTRIBUTED POWER SOURCES
B1051EP-A	Abandoned	12841683.1	12-Oct-2012					METHOD AND APPARATUS FOR CONTROLLING AN INVERTER USING PULSE MODE CONTROL
B1051US	Granted	13/324023	13-Dec-2011	8284574	09-Oct-2012	US-2012-0087158-A1	12-Apr-2012	METHOD AND APPARATUS FOR CONTROLLING AN INVERTER USING PULSE MODE CONTROL

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B1051US1	Granted	13/647847	09-Oct-2012	8737100	27-May-2014	US-2013-0094268-A1	18-Apr-2013	APPARATUS AND CONTROLLING AN INVERTER USING PULSE MODE CONTROL
B1051USP	Inactive	61/548018	17-Oct-2011					METHOD AND APPARATUS FOR CONTROLLING AN INVERTER USING PULSE MODE CONTROL
B1051WO	Inactive	PCT/US2012/059984	12-Oct-2012			WO2013/059088	25-Apr-2013	METHOD AND APPARATUS FOR CONTROLLING AN INVERTER USING PULSE MODE CONTROL
B1052AU	Granted	2013284458	27-Jun-2013	2013284458	05-Jan-2017			DEVICE, SYSTEM, AND METHOD FOR COMMUNICATING WITH A POWER INVERTER USING POWER LINE COMMUNICATIONS
B1052AU1	Pending	2016253592	02-Nov-2016					DEVICE, SYSTEM, AND METHOD FOR COMMUNICATING WITH A POWER INVERTER USING POWER LINE COMMUNICATIONS

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B1052EP	Published	13809702.7	27-Jun-2013			2857984	06-May-2015	DEVICE, SYSTEM, AND METHOD FOR COMMUNICATING WITH A POWER INVERTER USING POWER LINE COMMUNICATIONS
B1052US	Granted	13538723	29-Jun-2012	9276635	01-Mar-2016	US-2014-0003110-A1	02-Jan-2014	DEVICE, SYSTEM, AND METHOD FOR COMMUNICATING WITH A POWER INVERTER USING POWER LINE COMMUNICATIONS
B1052US1	Granted	15004686	22-Jan-2016	9843358	12-Dec-2017	2016-0142100	19-May-2016	DEVICE, SYSTEM, AND METHOD FOR COMMUNICATING WITH A POWER INVERTER USING POWER LINE COMMUNICATIONS
B1052WO	Published	PCT/US2013/048233	27-Jun-2013			WO2014/004855	03-Jan-2014	DEVICE, SYSTEM, AND METHOD FOR COMMUNICATING WITH A POWER INVERTER USING POWER LINE COMMUNICATIONS
B1053US	Granted	14/214896	15-Mar-2014	9584044	28-Feb-2017	US-2014-0268908-A1	18-Sep-2014	CONVERTER TOPOLOGIES
B1053USP	Expired	61794480	15-Mar-2013					CONVERTER TOPOLOGIES
B1054AU	Granted	2014237119	11-Mar-2014	2014237119	17-Aug-2017		04-May-2017	INVERTER COMMUNICATIONS USING OUTPUT SIGNAL

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B1054EP	Published	14769582.9	11-Mar-2014		2973979	20-Jan-2016		INVERTER COMMUNICATIONS USING OUTPUT SIGNAL
B1054US	Granted	13/871169	26-Apr-2013	9564835	07-Feb-2017	US-2014-0268958-A1	18-Sep-2014	INVERTER COMMUNICATIONS USING OUTPUT SIGNAL
B1054US1	Published	15/426,712	07-Feb-2017			US-2017-0149278-A1	25-May-2017	INVERTER COMMUNICATIONS USING OUTPUT SIGNAL
B1054USP	Expired	61/801835	15-Mar-2013					INVERTER COMMUNICATIONS USING OUTPUT SIGNAL
B1054WO	Published	PCT/US2014/023376	11-Mar-2014			WO2014/150485	25-Sep-2014	INVERTER COMMUNICATIONS USING OUTPUT SIGNAL
B1055AU	Pending	2014354752	26-Nov-2014					INTEGRATION OF MICROINVERTER WITH PHOTOVOLTAIC MODULE
B1055EP	Published	14865954.3	26-Nov-2014		3075218	05-Oct-2016		INTEGRATION OF MICROINVERTER WITH PHOTOVOLTAIC MODULE
B1055MX	Pending	MX/a/2016/006974	26-Nov-2014					INTEGRATION OF MICROINVERTER WITH PHOTOVOLTAIC MODULE
B1055US	Published	14554825	26-Nov-2014		US20150144181	28-May-2015		INTEGRATION OF MICROINVERTER WITH PHOTOVOLTAIC MODULE
B1055US1	Unfiled							INTEGRATION OF MICROINVERTER WITH PHOTOVOLTAIC MODULE

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B1055USP	Expired	61/909706	27-Nov-2013					INTEGRATION OF MICROINVERTER WITH PHOTOVOLTAIC MODULE
B1055WO	Published	PCT/US2014/067630	26-Nov-2014		WO2015/081204	04-Jun-2015		INTEGRATION OF MICROINVERTER WITH PHOTOVOLTAIC MODULE
B1056US	Published	14585647	30-Dec-2014		US-2015-0188249-A1	02-Jul-2015		AC CABLE ASSEMBLY INTERCONNECTION TECHNOLOGIES FOR MICROINVERTER ARRAY
B1056USP	Expired	61/922552	31-Dec-2013					AC CABLE ASSEMBLY INTERCONNECTION TECHNOLOGIES FOR MICROINVERTER ARRAY
B1057AU	Pending	2014373803	30-Dec-2014					ALTERNATING CURRENT PHOTOVOLTAIC MODULE
B1057EP	Published	14876045.7	30-Dec-2014		3090483	09-Nov-2016		ALTERNATING CURRENT PHOTOVOLTAIC MODULE
B1057US	Published	14/585975	30-Dec-2014		US-2015-0188486-A1	02-Jul-2015		ALTERNATING CURRENT PHOTOVOLTAIC MODULE
B1057USP	Expired	61/922146	31-Dec-2013					ALTERNATING CURRENT PHOTOVOLTAIC MODULE
B1057WO	Published	PCT/US2014/072809	30-Dec-2014		WO2015/103298	09-Jul-2015		ALTERNATING CURRENT PHOTOVOLTAIC MODULE

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B1059US	TBA-Granted	13196843	02-Aug-2011	8737093	27-May-2014			Converter with Quasi-Resonant Voltage Multiplier
B1059USP	Expired	61370085	02-Aug-2010					Converter with Quasi-Resonant Voltage Multiplier
B1060US	Granted	13300362	18-Nov-2011	8988096	24-Mar-2015			Flash Testing of Photovoltaic Modules with Integrated Electronics
B1060US1	Granted	13346572	09-Jan-2012	9423448	23-Aug-2016			Flash Testing of Photovoltaic Modules with Integrated Electronics
B1060US2	Granted	14663976	20-Mar-2015	9735730	15-Aug-2017	2015/0194927	09-Jul-2015	Flash Testing of Photovoltaic Modules with Integrated Electronics
B1060US3	Published	15242889	22-Aug-2016			20160359454	08-Dec-2016	Flash Testing of Photovoltaic Modules with Integrated Electronics
B1060USP	Expired	61449695	06-Mar-2011					Flash Testing of Photovoltaic Modules with Integrated Electronics
B1061US	Granted	13372469	13-Feb-2012	9136710	15-Sep-2015			Multi-Path Converters for PV Substrings
B1061USP	Expired	61450610	08-Mar-2011					Multi-Path Converters for PV Substrings
B1062US	Granted	13674786	12-Nov-2012	9547033	17-Jan-2017			Hierarchical Fault Prediction, Detection and Localization to PV Systems and Distributed Electronics
B1062USP	Expired	61559065	12-Nov-2011					Hierarchical Fault Prediction, Detection and Localization to PV Systems and Distributed Electronics
B1067AU	Pending	2015267255	22-May-2015					INVERTER ARRAY CHARACTERIZATION

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B1067BE	Published	15800118.0	22-May-2015		3149827	05-Apr-2017		INVERTER ARRAY CHARACTERIZATION
B1067DE	Published	15800118.0	22-May-2015		3149827	05-Apr-2017		INVERTER ARRAY CHARACTERIZATION
B1067EP	Published	15800118.0	22-May-2015		3149827	05-Apr-2017		INVERTER ARRAY CHARACTERIZATION
B1067EP1	Pending	18157387.4	22-May-2015					INVERTER ARRAY CHARACTERIZATION
B1067FR	Published	15800118.0	22-May-2015		3149827	05-Apr-2017		INVERTER ARRAY CHARACTERIZATION
B1067NL	Published	15800118.0	22-May-2015		3149827	05-Apr-2017		INVERTER ARRAY CHARACTERIZATION
B1067US	Granted	14720445	22-May-2015	9906036	27-Feb-2018	2015/0340868	26-Nov-2015	INVERTER ARRAY CHARACTERIZATION
B1067US1	Pending	15886352	01-Feb-2018					INVERTER ARRAY CHARACTERIZATION
B1067USP	Expired	62/002,885	25-May-2014					INVERTER ARRAY CHARACTERIZATION
B1067WO	Published	PCT/US15/32281	22-May-2015		WO2015183751	03-Dec-2015		INVERTER ARRAY CHARACTERIZATION
B1071AU	Pending	2016235071	24-Mar-2016					DC-TO-AC INVERTER TOPOLOGIES
B1071DE	Published	112016001392.2	24-Mar-2016		112016001392	14-Dec-2017		DC-TO-AC INVERTER TOPOLOGIES

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B1071JP	Pending	2017-534824	24-Mar-2016					DC-TO-AC INVERTER TOPOLOGIES
B1071US	Granted	15/080110	24-Mar-2016	9960712	01-May-2018	US-2016-0285387-A1	29-Sep-2016	DC-TO-AC INVERTER TOPOLOGIES
B1071US1	Unfiled							DC-TO-AC INVERTER TOPOLOGIES
B1071USP	Expired	62/138,184	25-Mar-2015					DC-TO-AC INVERTER TOPOLOGIES
B1071WO	Published	PCT/US2016/024026	24-Mar-2016			WO2016/154444	29-Sep-2016	DC-TO-AC INVERTER TOPOLOGIES
S0090AU	Granted	2008233230	24-Mar-2008	2008233230	02-Jan-2014	AU2008233230	09-Oct-2008	Localized Power Point Optimizer for Solar Cell Installations
S0090AU1	Granted	2013263823	29-Nov-2013	2013263823	06-Aug-2015	CA2681196 AA	09-Oct-2008	Localized Power Point Optimizer for Solar Cell Installations
S0090CA	Abandoned	2,681,196	24-Mar-2008					Localized Power Point Optimizer for Solar Cell Installations
S0090EP	Published	08742234.1	24-Mar-2008			2135296	23-Dec-2009	Localized Power Point Optimizer for Solar Cell Installations
S0090IL	Abandoned	200512	24-Mar-2008					Localized Power Point Optimizer for Solar Cell Installations
S0090JP	Granted	2010-500956	24-Mar-2008	5621094	03-Oct-2014	2010-524057	15-Jul-2010	Localized Power Point Optimizer for Solar Cell Installations
S0090KR	TBA-Granted	10-2009-7022284	24-Mar-2008	10-1520981	11-May-2015	KR20090127940	14-Dec-2009	Localized Power Point Optimizer for Solar Cell Installations
S0090KR1	TBA-Pending	10-2015-7002090	26-Jan-2015			10-2015-23888	05-Mar-2015	Localized Power Point Optimizer for Solar Cell Installations

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S0090KR2	Abandoned	10-2016-7008293	29-Mar-2016		10-2016-42148	18-Apr-2016	Localized Power Point Optimizer for Solar Cell Installations	
S0090US	Granted	11/731,455	30-Mar-2007	US8158877	17-Apr-2012	US2008/0236648	02-Oct-2008	Localized Power Point Optimizer for Solar Cell Installations
S0090US1	Granted	13/416,438	09-Mar-2012	9,281,419	08-Mar-2016	US-2014-0035377-A1	06-Feb-2014	Localized Power Point Optimizer for Solar Cell Installations
S0090US2	Published	15/060,175	03-Mar-2016			US20160322829A1	03-Nov-2016	Localized Power Point Optimizer for Solar Cell Installations
S0090WO	Expired	PCT/US08/03867	24-Mar-2008			WO/2008/121266	09-Oct-2008	Localized Power Point Optimizer for Solar Cell Installations
S0233US	Granted	13/217,749	25-Aug-2011	9472691	18-Oct-2016	US-2013-0049710-A1	28-Feb-2013	Device for Reducing the Open Circuit Voltage of a Solar System
S0233US1	Published	15/289,038	07-Oct-2016			US-2017-0025995-A1	26-Jan-2017	DEVICE FOR REDUCING THE OPEN CIRCUIT VOLTAGE OF A SOLAR SYSTEM
S0242AU	Granted	2012328766	25-Oct-2012	2012328766	09-Jul-2015		26-Mar-2015	Mater/Slave Cascaded Plant Control for a Solar PV Power Plant
S0242CL	Published	1053-2014	25-Oct-2012		1053-2014		28-Nov-2014	Mater/Slave Cascaded Plant Control for a Solar PV Power Plant
S0242CN	Abandoned	201280052957X	25-Oct-2012		CN 103975284 A		06-Aug-2014	Mater/Slave Cascaded Plant Control for a Solar PV Power Plant
S0242CN1	Pending	2018100528720	25-Oct-2012					Mater/Slave Cascaded Plant Control for a Solar PV Power Plant
S0242EP	Published	128441664	25-Oct-2012		2771752		03-Sep-2014	Mater/Slave Cascaded Plant Control for a Solar PV Power Plant

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S0242JP	Granted	2014-538993	25-Oct-2012	6205658	15-Sep-2017	2014-533084	08-Dec-2014	Mater/Slave Cascaded Plant Control for a Solar PV Power Plant
S0242MX	Granted	MX/a/2014/005004	25-Oct-2012	334944	17-Nov-2015	5624372	24-Feb-2015	Mater/Slave Cascaded Plant Control for a Solar PV Power Plant
S0242US	Granted	13/658,562	23-Oct-2012	9680301	13-Jun-2017	US-2013-0106196-A1	02-May-2013	Mater/Slave Cascaded Plant Control for a Solar PV Power Plant
S0242USP	Expired	61/552,345	27-Oct-2011					Mater/Slave Cascaded Plant Control for a Solar PV Power Plant
S0242WO	Published	PCT/US12/61851	25-Oct-2012			WO2013063224	02-May-2013	Mater/Slave Cascaded Plant Control for a Solar PV Power Plant
S0242ZA	Granted	2014/03054	25-Oct-2012	2014/03054	31-Jan-2018			Mater/Slave Cascaded Plant Control for a Solar PV Power Plant
S0248AU	Granted	2012355665	11-Dec-2012	2012355665	15-Oct-2015			Circuits and Methods for Limiting Open Circuit Voltage of Photovoltaic Strings
S0248AU1	Granted	2015234359	01-Oct-2015	2015234359	10-Nov-2016			Circuits and Methods for Limiting Open Circuit Voltage of Photovoltaic Strings
S0248AU2	Pending	2016231620	23-Sep-2016					Circuits and Methods for Limiting Open Circuit Voltage of Photovoltaic Strings
S0248CL	Published	01612-2014	11-Dec-2012		41.058	16-Jan-2015		Circuits and Methods for Limiting Open Circuit Voltage of Photovoltaic Strings
S0248CN	Granted	2012800636603	11-Dec-2012	ZL2012800636603	03-May-2017	CN 104011873 A	27-Aug-2014	Circuits and Methods for Limiting Open Circuit Voltage of Photovoltaic Strings

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S0248CNI	Published	20170229278X	10-Apr-2017		107039948	11-Aug-2017	Circuits and Methods for Limiting Open Circuit Voltage of Photovoltaic Strings	
S0248EP	Published	12860586.2	11-Dec-2012		2705681	29-Oct-2014	Circuits and Methods for Limiting Open Circuit Voltage of Photovoltaic Strings	
S0248JP	Granted	2014-549120	11-Dec-2012	6299028	2015-506658	02-Mar-2015	Circuits and Methods for Limiting Open Circuit Voltage of Photovoltaic Strings	
S0248KR	Published	10-2014-7019953	11-Dec-2012		10-2014-113690	24-Sep-2014	Circuits and Methods for Limiting Open Circuit Voltage of Photovoltaic Strings	
S0248MX	Granted	MX/a/2014/007548	11-Dec-2012	339651	02-Jun-2016		Circuits and Methods for Limiting Open Circuit Voltage of Photovoltaic Strings	
S0248MX1	Allowed	MX/a/2016/006838	25-May-2016				Circuits and Methods for Limiting Open Circuit Voltage of Photovoltaic Strings	
S0248US	Granted	13/335,756	22-Dec-2011	8,630,077	14-Jan-2014	US-2013-0163137-A1	27-Jun-2013	Circuits and Methods for Limiting Open Circuit Voltage of Photovoltaic Strings
S0248US1	Granted	14/097,882	05-Dec-2013	9,190,839	17-Nov-2015	US20140153149A1	05-Jun-2014	Circuits and Methods for Limiting Open Circuit Voltage of Photovoltaic Strings
S0248US2	Granted	14/884,540	15-Oct-2015	9,735,729	15-Aug-2017	US20160036380A1	04-Feb-2016	Circuits and Methods for Limiting Open Circuit Voltage of Photovoltaic Strings

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S0248WO	Published	PCT/US12/68973	11-Dec-2012		WO 2013/096014	27-Jun-2013	Circuits and Methods for Limiting Open Circuit Voltage of Photovoltaic Strings	
S0248ZA	Granted	2014/4267	11-Dec-2012	2014/04267	31-Aug-2016			Circuits and Methods for Limiting Open Circuit Voltage of Photovoltaic Strings
S0248ZA1	Granted	2015/08652	24-Nov-2015	2015/08652	31-Jan-2018			Circuits and Methods for Limiting Open Circuit Voltage of Photovoltaic Strings
S0255AU	Granted	2012374044	11-Dec-2012	2012374044	09-Nov-2017			Control Techniques for Photovoltaic Power Plants
S0255CL	Published	2501-2014	11-Dec-2012		41.256	11-Sep-2015		Control Techniques for Photovoltaic Power Plants
S0255CL1	Published	201601285	11-Dec-2012		41-663	20-Jan-2017		Control Techniques for Photovoltaic Power Plants
S0255CN	Allowed	2012800716754	11-Dec-2012		CN 104718680 A	17-Jun-2015		Control Techniques for Photovoltaic Power Plants
S0255EP-A	Abandoned	12871765.9	11-Dec-2012					CONTROL TECHNIQUES FOR PHOTOVOLTAIC POWER PLANTS
S0255JP	Granted	2015-501659	11-Dec-2012	6140803	12-May-2017	2015-520592	16-Jul-2015	Control Techniques for Photovoltaic Power Plants
S0255MX	Granted	MX/a/2014/011414	11-Dec-2012	337709	15-Mar-2016	P255314MX	18-Dec-2014	Control Techniques for Photovoltaic Power Plants
S0255MX1	Granted	MX/a/2016/002988	07-Mar-2016	346126	08-Mar-2017			Control Techniques for Photovoltaic Power Plants

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S0255MX2	Pending	MX/a/2016/016560	14-Dec-2016					Control Techniques for Photovoltaic Power Plants
S0255US	Granted	13/427,729	22-Mar-2012	9,373,958	21-Jun-2016	US2013-0250635-A1	26-Sep-2013	Control Techniques for Photovoltaic Power Plants
S0255US1	Granted	15/160,832	20-May-2016	9,912,161	06-Mar-2018	US20160344191A1	24-Nov-2016	Control Techniques for Photovoltaic Power Plants
S0255WO	Published	PCT/US12/68982	11-Dec-2012			WO 2013/141908	26-Sep-2013	Control Techniques for Photovoltaic Power Plants
S0255ZA1	Granted	2014/06874	11-Dec-2012	2014/06874	21-Dec-2016			Control Techniques for Photovoltaic Power Plants
S0255ZAU	Pending	2016/06359	14-Sep-2016					Control Techniques for Photovoltaic Power Plants
S0256AU1	Granted	2012375214	11-Dec-2012	2012375214	29-Sep-2016			Maximum Power Point Tracking for Operation of Photovoltaic Systems
S0256CL	Pending	2016225833	07-Sep-2016			41,256	11-Sep-2015	Maximum Power Point Tracking for Operation of Photovoltaic Systems
S0256CNM	Granted	2012900012361	11-Dec-2012	ZL 2012900012361	25-Mar-2015	204231284		Maximum Power Point Tracking for Operation of Photovoltaic Systems
S0256DE	Published	12873077.7	11-Dec-2012			2831921	04-Feb-2015	Maximum Power Point Tracking for Operation of Photovoltaic Systems
S0256EP	Published	12873077.7	11-Dec-2012			2831921	04-Feb-2015	Maximum Power Point Tracking for Operation of Photovoltaic Systems

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S0256JP	Granted	2015-503191	11-Dec-2012	6181148	28-Jul-2017	2015-520431	16-Jul-2015	Maximum Power Point Tracking for Operation of Photovoltaic Systems
S0256P1	Published	2017-140203	19-Jul-2017			2017-224315	21-Dec-2017	Maximum Power Point Tracking for Operation of Photovoltaic Systems
S0256KR	Published	10-2014-7029572	11-Dec-2012			10-2014-139035	04-Dec-2014	Maximum Power Point Tracking for Operation of Photovoltaic Systems
S0256MX	Granted	MA/a/2014/011622	11-Dec-2012	339956	17-Jun-2016	5608942	11-Nov-2014	Maximum Power Point Tracking for Operation of Photovoltaic Systems
S0256MX1	Pending	MX/a/2016/008018	11-Dec-2012					Maximum Power Point Tracking for Operation of Photovoltaic Systems
S0256US	Granted	13/431,834	27-Mar-2012	9,397,611	19-Jul-2016	US-2013-0257155-A1	03-Oct-2013	Maximum Power Point Tracking for Operation of Photovoltaic Systems
S0256US1	Granted	15/182,235	14-Jun-2016	9923374	20-Mar-2018	US20160365733A1	15-Dec-2016	Maximum Power Point Tracking for Operation of Photovoltaic Systems
S0256WO	Published	PCT/US12/68986	11-Dec-2012			WO 2013/147942	03-Oct-2013	Maximum Power Point Tracking for Operation of Photovoltaic Systems
S0256ZA	Granted	2014/06875	11-Dec-2012	2014/06875	21-Dec-2016			Maximum Power Point Tracking for Operation of Photovoltaic Systems
S0256ZA1	Pending	2016/06504	11-Dec-2012					Maximum Power Point Tracking for Operation of Photovoltaic Systems
S0259AU	Granted	2013239955	26-Mar-2013	2013239955	22-Sep-2016			ELECTRONIC COMPONENT HOUSING WITH HEAT SINK
S0259DE	Granted	13768875.0	26-Mar-2013	2831925	19-Jul-2017	2831925	04-Feb-2015	ELECTRONIC COMPONENT HOUSING WITH HEAT SINK

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S0259EP	Granted	13768875.0	26-Mar-2013	2831925	19-Jul-2017	2831925	04-Feb-2015	ELECTRONIC COMPONENT HOUSING WITH HEAT SINK
S0259JP	Granted	2015-503448	26-Mar-2013	6209790	22-Sep-2017	2015-517291	18-Jun-2015	ELECTRONIC COMPONENT HOUSING WITH HEAT SINK
S0259KR	Published	10-2014-7030072	26-Mar-2013			10-2014-0147869	30-Dec-2014	ELECTRONIC COMPONENT HOUSING WITH HEAT SINK
S0259US	Granted	13/436,723	30-Mar-2012	9,635,783	25-Apr-2017	US20130255749	03-Oct-2014	Electronic Component Housing with Heat Sink
S0259WO	Published	PCT/US2013/033797	26-Mar-2013			WO2013148624	03-Oct-2013	ELECTRONIC COMPONENT HOUSING WITH HEAT SINK
S1104AU	Pending	2014364597	17-Dec-2014					SYSTEM, METHOD, AND COMPUTER PROGRAM PRODUCT FOR CONTROLLING VOLTAGE OF DC POWER SOURCES AND BYPASSING SERIES-- CONNECTED POWER SOURCES
S1104CL	Published	1399-2016	17-Dec-2014		1399-2016	17-Feb-2017		SYSTEM, METHOD, AND COMPUTER PROGRAM PRODUCT FOR CONTROLLING VOLTAGE OF DC POWER SOURCES AND BYPASSING SERIES-- CONNECTED POWER SOURCES

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S1104CN	Published	201480061748.0	17-Dec-2014		105723614	29-Jun-2016		SYSTEM, METHOD, AND COMPUTER PROGRAM PRODUCT FOR CONTROLLING VOLTAGE OF DC POWER SOURCES AND BYPASSING SERIES-- CONNECTED POWER SOURCES
S1104EP	Published	14871646.7	17-Dec-2014	3084956	26-Oct-2016			SYSTEM, METHOD, AND COMPUTER PROGRAM PRODUCT FOR CONTROLLING VOLTAGE OF DC POWER SOURCES AND BYPASSING SERIES-- CONNECTED POWER SOURCES
S1104JP	Published	2016-5119960	17-Dec-2014		2017-502490	19-Jan-2017		SYSTEM, METHOD, AND COMPUTER PROGRAM PRODUCT FOR CONTROLLING VOLTAGE OF DC POWER SOURCES AND BYPASSING SERIES-- CONNECTED POWER SOURCES
S1104KR	Published	2016-7015730	17-Dec-2014		10-2016-0099560	22-Aug-2016		SYSTEM, METHOD, AND COMPUTER PROGRAM PRODUCT FOR CONTROLLING VOLTAGE OF DC POWER SOURCES AND BYPASSING SERIES-- CONNECTED POWER SOURCES

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S1104MX	Pending	MX/a/2016/007330	17-Dec-2014					Voltage Clipping
S1104SA	Pending	516371330	15-Jun-2016					VOLTAGE CLIPPING
S1104US	Published	14/572,722	16-Dec-2014			US-2015-0171628-A1	18-Jun-2015	VOLTAGE CLIPPING
S1104USP	Expired	61916800	17-Dec-2013					SYSTEM, METHOD, AND COMPUTER PROGRAM PRODUCT FOR CONTROLLING VOLTAGE OF DC POWER SOURCES AND BYPASSING SERIES-CONNECTED POWER SOURCES
S1104WO	Published	PCT/US14/70987	17-Dec-2014			WO 2015/095414	25-Jun-2015	SYSTEM, METHOD, AND COMPUTER PROGRAM PRODUCT FOR CONTROLLING VOLTAGE OF DC POWER SOURCES AND BYPASSING SERIES-CONNECTED POWER SOURCES
S1104ZA	TBA-Pending	2016/03514	17-Dec-2014					VOLTAGE CLIPPING
S1143EP	Published	16751369.6	18-May-2016			3314716	02-May-2018	Multi-variable power point tracking
S1143US	Published	14751502	26-Jun-2015			20160380434	29-Dec-2016	Multi-variable power point tracking
S1143WO	Published	PCT/US16/33078	18-May-2016			WO 2016/209433	29-Dec-2016	Multi-variable power point tracking

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S1144US	Published	14751541	26-Jun-2015		20160380425	29-Dec-2016	Passive Clamp Circuit for Isolated Boost Circuit	
S1151AU	Pending	2016310373	27-Jul-2016					POWER PROCESSING
S1151EP	Pending	16839779.2	27-Jul-2016					POWER PROCESSING
S1151US	Published	14837118	27-Aug-2015		US-2017-0063094-A1	02-Mar-2017	POWER PROCESSING	
S1151WO	Published	PCT/US16/44204	27-Jul-2016		WO2017034739	02-Mar-2017	POWER PROCESSING	
S1163AU	Pending	2016336431	06-Oct-2016					PHOTOVOLTAIC MANAGEMENT AND MODULE-LEVEL POWER ELECTRONICS
S1163EP	Pending	16854294.2	09-Apr-2018					PHOTOVOLTAIC MANAGEMENT AND MODULE-LEVEL POWER ELECTRONICS
S1163US	Published	14880143	09-Oct-2015		US-2017-0104447-A1	13-Apr-2017	PHOTOVOLTAIC MANAGEMENT AND MODULE-LEVEL POWER ELECTRONICS	
S1163US1	Unfiled							PHOTOVOLTAIC MANAGEMENT AND MODULE-LEVEL POWER ELECTRONICS
S1163WO	Published	PCT/US16/55684	06-Oct-2016		WO2017062574	13-Apr-2017	PHOTOVOLTAIC MANAGEMENT AND MODULE-LEVEL POWER ELECTRONICS	
S1167US	Granted	14/976,497	21-Dec-2015	9882598	30-Jan-2018	20170085288	23-Mar-2017	Adjustable Transmit/Receive Filter

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S1167USP	Expired	62/222,755	23-Sep-2015					Adjustable Transmit/Receive Filter
S1167WO	Published	PCT/US16/52875	21-Sep-2016			WO 2017/053420 A1	30-Mar-2017	Adjustable Transmit/Receive Filter
S1172US	Granted	14/975,213	18-Dec-2015	9634723		25-Apr-2017		COMMUNICATION BETWEEN PHOTOVOLTAIC DEVICES ON A SHARED POWER LINE
S1182US	Granted	15/080,948	25-Mar-2016	9923488	20-Mar-2018	US-2017-0279375- A1	28-Sep-2017	Soft Switching Technique for a Grid-Tied Inverter
S1183AU	Pending	2016235070	24-Mar-2016					Multi-port resonant converter topology with reduced common mode voltage
S1183DE	Published	112016001372.8	24-Mar-2016		112016001372		30-Nov-2017	Multi-port resonant converter topology with reduced common mode voltage
S1183JP	Pending	2017-534836	24-Mar-2016					Multi-port resonant converter topology with reduced common mode voltage
S1183US	Granted	15/080,142	24-Mar-2016	9825556	21-Nov-2017	US-2016-0285390- A1	29-Sep-2016	Multi-port resonant converter topology with reduced common mode voltage
S1183WO	Published	PCT/US2016/024024	24-Mar-2016			WO2016/154443	29-Sep-2016	Multi-port resonant converter topology with reduced common mode voltage
S1201US	Granted	15199239	30-Jun-2016	9954462	24-Apr-2018	US-2018-0006575- A1	04-Jan-2018	CONVERTER TOPOLOGIES AND CONTROL

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S1201US1	Pending	15/948380	09-Apr-2018					TOPOLOGIES AND CONTROL
S1201WO	Published	PCT/US17/39195	26-Jun-2017		WO2018005321	04-Jan-2018		CONVERTER TOPOLOGIES AND CONTROL
S1210CN	Published	2017110076388	25-Oct-2017		CN 107994854 A	04-May-2018		HUMIDITY-CONTROLLED ELECTRONIC COMPONENT ASSEMBLIES FOR PHOTOVOLTAIC SYSTEMS
S1210DE	Published	102017219156.2	25-Oct-2017		102017219156	26-Apr-2018		HUMIDITY-CONTROLLED ELECTRONIC COMPONENT ASSEMBLIES FOR PHOTOVOLTAIC SYSTEMS
S1210FR	Published	1759937	20-Oct-2017		3057996	27-Apr-2018		HUMIDITY-CONTROLLED ELECTRONIC COMPONENT ASSEMBLIES FOR PHOTOVOLTAIC SYSTEMS
S1210US	Published	15335060	26-Oct-2016		US-2018-0115277-A1	26-Apr-2018		HUMIDITY-CONTROLLED ELECTRONIC COMPONENT ASSEMBLIES FOR PHOTOVOLTAIC SYSTEMS
S1211US	Published	15294098	14-Oct-2016		US-2018-0109224-A1	19-Apr-2018		REMOTE ARRAY MAPPING

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S1211WO	Published	PCT/US17/56463	13-Oct-2017		WO-2018-071745-A1	19-Apr-2018		REMOTE ARRAY MAPPING
S1236US	Pending	15/396622	31-Dec-2016					MULTIPOLEAR PHOTOVOLTAIC PANEL
S1243US	Pending	15395911	30-Dec-2016					Three-Level Inverter Switching
S1249EP	Pending	17208298.4	19-Dec-2017					Module-Level Power Electronics Architecture to Minimize or Eliminate Filter Components
S1249US	Pending	15833691	06-Dec-2017					Filter Component Reduction
S1249USP	Expired	62438530	23-Dec-2016					Module-Level Power Electronics Architecture to Minimize or Eliminate Filter Components
S1255US	Unfiled	15/956011	18-Apr-2018					INITIALIZING VIRTUAL OSCILLATOR CONTROL
S1255USP	Pending	62500934	03-May-2017					INITIALIZING VIRTUAL OSCILLATOR CONTROL
S1271USP	Pending	62/576,193	24-Oct-2017					Energy Harvest Enhancement Technique
S2001USP	Pending	62607082	18-Dec-2017					Modular Series Connected Inverters
B1070US	Published	14818014	04-Aug-2015		20160043684	11-Feb-2016		AUTOMATED PROVISIONING OF ARRAYS OF ALTERNATING CURRENT PHOTOVOLTAIC MODULES

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B1070USP	Expired	62/033,389	05-Aug-2014					AUTOMATED PROVISIONING OF ARRAYS OF ALTERNATING CURRENT PHOTOVOLTAIC MODULES
S1181US	Published	15087594	31-Mar-2016			US-2017-0288599-A1	05-Oct-2017	Automated Commissioning and Inspection for PV Systems
S1166AU	Pending	2016344321	25-Oct-2016					AUTOMATED PHOTOVOLTAIC GEOSPATIAL LOCATION
S1166EP	Pending	16860604.4	25-Oct-2016					AUTOMATED PHOTOVOLTAIC GEOSPATIAL LOCATION
S1166US	Published	14922915	26-Oct-2015			US-2017-0115119-A1	27-Apr-2017	AUTOMATED PHOTOVOLTAIC GEOSPATIAL LOCATION
S1166WO	Published	PCTIUS16/58623	25-Oct-2016			WO 2017/074916	04-May-2017	AUTOMATED PHOTOVOLTAIC GEOSPATIAL LOCATION

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