

TRADEMARK ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

ETAS ID: TM366821

SUBMISSION TYPE:	NEW ASSIGNMENT		
NATURE OF CONVEYANCE:	SECURITY INTEREST		
CONVEYING PARTY DATA			
Name	Formerly	Execution Date	Entity Type
Persimmon Technologies Corporation		12/18/2015	CORPORATION: DELAWARE
RECEIVING PARTY DATA			
Name:	Hercules Technology Growth Capital, Inc.		
Street Address:	400 Hamilton Avenue		
Internal Address:	Suite 310		
City:	Palo Alto		
State/Country:	CALIFORNIA		
Postal Code:	94301		
Entity Type:	CORPORATION: MARYLAND		
PROPERTY NUMBERS Total: 1			
Property Type	Number	Word Mark	
Registration Number:	4309284	PERSIMMON TECHNOLOGIES	
CORRESPONDENCE DATA			
Fax Number:	6179464801		
<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>			
Phone:	617-946-4870		
Email:	ldifronzo@seyfarth.com		
Correspondent Name:	Louis J. DiFronzo, Jr.		
Address Line 1:	2 Seaport Lane		
Address Line 2:	Suite 300		
Address Line 4:	Boston, MASSACHUSETTS 02210-2028		
ATTORNEY DOCKET NUMBER:	39987.14		
NAME OF SUBMITTER:	Louis J. DiFronzo		
SIGNATURE:	/Louis J. DiFronzo/		
DATE SIGNED:	12/22/2015		
Total Attachments: 20			
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INTELLECTUAL PROPERTY SECURITY AGREEMENT

This Intellectual Property Security Agreement (this "Agreement") dated December 18, 2015 is executed by and between PERSIMMON TECHNOLOGIES CORPORATION, a Delaware corporation, having a principal place of business located at 200 Harvard Mill Square, Suite 110, Wakefield, Massachusetts 01880 (the "Debtor"), Hercules Technology Growth Capital, Inc., a Maryland corporation, in its capacity as administrative agent (the "Agent"), and Hercules Technology Growth Capital, Inc., as Lender ("Lender" and together with the Agent its successors and/or assigns, the "Secured Party"), having a principal place of business located at 400 Hamilton Avenue, Suite 310, Palo Alto, CA 94301.

RECITALS

A. Pursuant to the terms of that certain Loan and Security Agreement of even date herewith (as the same may be amended, restated or otherwise modified from time to time, the "Loan Agreement") by and between the Debtor and the Secured Party, the Secured Party has established a certain term loan arrangement in favor of the Debtor (collectively, the "Term Loan"). Capitalized terms used herein and not defined shall have the meanings ascribed to them in the Loan Agreement.

B. To induce the Secured Party to the establish the Term Loan in favor of Debtor pursuant to the terms of the Loan Agreement, the Debtor desires to grant a security interest to the Secured Party in all of the Debtor's right title and interest, whether presently existing or hereafter acquired in, to and under all of the Collateral (as defined in Section 1 hereof).

NOW, THEREFORE, in consideration of the premises set forth above, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, it is hereby agreed as follows:

1. Security Interest. As security for the Secured Obligations (as defined in the Loan Agreement) described in Section 2 hereof, the Debtor hereby grants to the Secured Party a security interest in, and pledges and assigns to the Secured Party, the property described below, together with any and all accessions, additions and improvements thereto and substitutions and replacements and proceeds thereof (hereinafter referred to collectively as the "Collateral"):

(a) All of the following property, now owned or hereafter acquired by the Debtor in which the Debtor now holds or hereafter acquires any interest (collectively, the "Copyrights"): (i) all copyrights, whether registered or unregistered, held pursuant to the laws of the United States, any State thereof, or of any other country; (ii) all registrations, applications and recordings in the United States Copyright Office or in any similar office or agency of the United States, of any State thereof, or of any other country; (iii) all continuations, renewals or extensions thereof; and (iv) all registrations to be issued under any pending applications, including, without limitation, all of the foregoing set forth on Schedule A attached hereto;

(b) All of the following property, now owned or hereafter acquired by the Debtor or in which the Debtor now holds or hereafter acquires any interest (collectively, the "Patents"): (i) all letters patent of, or rights corresponding thereto, in the United States or in any other country, all registrations and recordings thereof, and all applications for letters patent of, or rights corresponding thereto, in the United States or any other country, including registrations, recordings and applications in the United States Patent and Trademark Office or in any similar office or agency of the United States, any State thereof or any other country; (ii) all reissues, continuations, continuations-in-part or extensions thereof; (iii) all petty patents, divisionals, and patents of addition; and (iv) all patents to be issued under any such applications, including, without limitation, all of the foregoing set forth on Schedule B attached hereto;

(c) All of the following property, now owned or hereafter acquired by the Debtor or in which the Debtor now holds or hereafter acquires any interest (collectively, the "Trademarks"): (i) all trademarks (registered, common law or otherwise), tradenames, corporate names, business names, trade styles, service marks, logos, other source or business identifiers (and all goodwill associated therewith), prints and labels on which any of the foregoing have appeared or appear, and designs of like nature, now existing or hereafter adopted or acquired, all registrations and recordings thereof, and any applications in connection therewith, including registrations, recordings and applications in the United States Patent and Trademark Office or in any similar office or agency of the United States, any State thereof or any other country or any political subdivision thereof, and (ii) all reissues, extensions or renewals thereof, including, without limitation, all of the foregoing set forth on Schedule C attached hereto;

(d) Any Copyright license, Patent license, Trademark license or other license of rights or interests now held or hereafter acquired by the Debtor or in which the Debtor now holds or hereafter acquires any interest and any renewals or extensions thereof, including, without limitation, all of the foregoing set forth on Schedule D attached hereto (collectively, the "Licenses");

(e) Debtor's software, source codes, trade secrets and inventions (whether or not patented or patentable);

(f) Debtor's technical information, procedures, processes, designs, knowledge, and know-how; Debtor's data bases, models and drawings;

(g) Debtor's websites, world wide web addresses, domain names, URL's, moral rights, publicity rights, mask works and any other proprietary, intellectual or industrial proprietary rights of any kind or nature that do not compromise or are not protected by the Patents, Trademarks, Copyrights or Licenses;

(h) Debtor's applications therefor and reissues, extensions, or renewals thereof; and

(i) Debtor's goodwill associated with any of the foregoing, together with Debtor's rights to sue for past, present and future infringement of the foregoing and the goodwill associated therewith.

2. Secured Obligations. The security interest hereby granted shall secure the due and punctual payment and performance of the Secured Obligations (as defined in the Loan Agreement).

3. Special Warranties and Covenants of the Debtor. The Debtor hereby warrants and represents that the representations and warranties contained in Section 5 of the Loan Agreement are true, correct and complete, and the provisions of Section 5 of the Loan Agreement are hereby incorporated herein by reference and made a part hereof.

4. Rights of the Secured Party. Upon the occurrence of any Event of Default (as defined in Section 6 hereof), such default not having previously been remedied or cured, the Secured Party may declare all of the Secured Obligations (as defined in the Loan Agreement) to be immediately due and payable and shall then have the rights and remedies of a secured party under the UCC or under any other applicable law, including, without limitation, the right to take possession of the Collateral and, in addition thereto, the right to enter upon any premises on which the Collateral or any part thereof may be situated and remove the same therefrom. The Secured Party may require the Debtor to make the Collateral (to the extent the same is moveable) available to the Secured Party at a place to be designated by the Secured Party which is reasonably convenient to both parties. Unless the Collateral is perishable or threatens to decline speedily in value or is of a type customarily sold on a recognized market, the Secured Party will give the Debtor at least ten (10) days' prior written notice at the address of the Debtor set forth above (or at such other address or addresses as the Debtor shall specify in writing to the Secured Party) of the time and place of any public sale thereof or of the time after which any private sale or any other intended disposition thereof is to be made. Any such notice shall be deemed to meet any requirement hereunder or

under any applicable law (including the UCC) that reasonable notification be given of the time and place of such sale or other disposition. After deducting all costs and expenses of collection, storage, custody, sale or other disposition and delivery (including reasonable legal costs and attorneys' fees and all out-of-pocket expenses incurred by the Secured Party) and all other charges against the Collateral, the residue of the proceeds of any such sale or disposition shall be applied to the payment of the Secured Obligations (as defined in the Loan Agreement) in such order of priority as the Secured Party shall determine and any surplus shall be returned to the Debtor or to any person or party lawfully entitled thereto (including, if applicable, any subordinated creditors of the Debtor). In the event the proceeds of any sale, lease or other disposition of the Collateral hereunder are insufficient to pay all of the Secured Obligations (as defined in the Loan Agreement) in full, the Debtor will be liable for the deficiency, together with interest thereon, at the default rate as set forth in Section 2.3 of the Loan Agreement and the cost and expenses of collection of such deficiency, including (to the extent permitted by law), without limitation, reasonable legal costs and attorneys' fees, expenses and disbursements.

5. Rights of Secured Party to Use and Operate Collateral. Upon the occurrence and during the continuance of any Event of Default (as defined in Section 6 hereof), but subject to the provisions of the UCC or other applicable law, the Secured Party shall also have the right and power to take possession of all or any part of the Collateral, and to exclude the Debtor and all persons claiming under the Debtor wholly or partly therefrom, and thereafter to hold, store, and/or use, operate, manage and control the same, exercising all rights and powers of the Debtor in respect thereto. Any income received by the Secured Party from the Collateral shall be applied to pay the expenses of maintaining and protecting the Collateral and conducting the Debtor's business, and to make all payments which the Secured Party may be required or may elect to make, if any, for taxes, assessments, insurance and other charges upon the Collateral or any part thereof, and all other payments which the Secured Party may be required or authorized to make under any provision of this Agreement (including legal costs and reasonable attorneys' fees). The remainder of such income shall be applied to the payment of the Secured Obligations (as defined in the Loan Agreement) in such order of priority as the Secured Party shall determine and, unless otherwise provided by law or by a court of competent jurisdiction, any surplus shall be returned to the Debtor or to any person or party lawfully entitled thereto (including, if applicable, any subordinated creditors of the Debtor). Without limiting the generality of the foregoing, the Secured Party shall have the right to apply for and have a receiver appointed by a court of competent jurisdiction in any action taken by the Secured Party to enforce their rights and remedies hereunder in order to manage, protect and preserve the Collateral and continue the operation of the business of the Debtor and to collect all revenues and profits thereof and apply the same to the payment of all expenses and other charges of such receivership including the compensation of the receiver and to the payment of the Secured Obligations (as defined in the Loan Agreement) as aforesaid until a sale or other disposition of such Collateral shall be finally made and consummated.

6. Events of Default. The Debtor shall be in default under this Agreement upon the occurrence of an Event of Default, as such term is defined in the Loan Agreement (herein called "Events of Default").

7. Waivers. Except as otherwise provided herein, the Debtor hereby waives presentment, demand, notice, protest, and, all other demands and notices in connection with this Agreement or the enforcement of the rights of the Secured Party hereunder or in connection with the Secured Obligations (as defined in the Loan Agreement) or any Collateral and consents to and waives notice of the granting of renewals, extensions of time for payment or other indulgences to the Debtor or to any account debtor in respect of any account receivable, or the substitution, release or surrender of any Collateral, the addition or release of persons primarily or secondarily liable on any Secured Obligation or on any account receivable or other Collateral, the acceptance of partial payments on any Secured Obligation or on any account receivable or other Collateral and/or the settlement or compromise thereof. No delay or omission on the part of the Secured Party in exercising any right hereunder shall operate as a waiver of such right

or of any other right hereunder. Any waiver of any such right on any one occasion shall not be construed as a bar to or waiver of any such right on any such future occasion. The Debtor further waives any right it may have to notice (other than any requirement of notice provided herein or in the Loan Agreement) prior to the exercise of any right or remedy provided by this Agreement to the Secured Party and waives its rights, if any, to set aside or invalidate any sale duly consummated in accordance with the foregoing provisions hereof on the grounds (if such be the case) that the sale was consummated without a prior judicial hearing. The Debtor's waivers under this Section 7 have been made voluntarily, intelligently and knowingly and after the Debtor has been apprised and counseled by its attorneys as to the nature thereof and its possible alternative rights.

8. Assignment. No waiver by the Secured Party or by any other holder of Secured Obligations (as defined in the Loan Agreement) of any default shall be effective unless in writing nor operate as a waiver of any other default or of the same default on a future occasion. The Secured Party may waive any default hereunder with respect to the Note at any time outstanding. In the event of a sale or assignment by the Secured Party of all or any of the Secured Obligations (as defined in the Loan Agreement) held by the Secured Party, such Secured Party may assign or transfer their rights and interest under this Agreement in whole or in part to the purchaser or purchasers of such Secured Obligations (as defined in the Loan Agreement), whereupon such purchaser or purchasers shall become vested with all of the powers and rights of such Secured Party hereunder, and such Secured Party shall thereafter be forever released and fully discharged from any liability or responsibility hereunder with respect to the rights and interest so assigned.

9. Governmental Approvals. The Secured Party acknowledges that in connection with any exercise by the Secured Party of its rights hereunder to dispose of or operate under the authorizations, permits and licenses covered hereby, it may be necessary to obtain the prior consent or approval of certain governmental authorities or instrumentalities. Notwithstanding anything to the contrary contained herein or in any security document, neither the Secured Party nor the Debtor will take any action pursuant to this Agreement or any of the security documents which would constitute or result in any assignment of a license, if such assignment of license would require under then existing law, the prior approval of any governmental authority or instrumentality, without first obtaining such approval of such governmental authority or instrumentality. Upon the exercise by the Secured Party of any power, right, privilege or remedy pursuant to this Agreement which requires any consent, approval, recording, qualification or authorization of any governmental authority or instrumentality, the Debtor will execute and deliver, or will cause the execution and delivery of, all applications, certificates, instruments and other documents and papers that the Secured Party may reasonably determine to be required to obtain for such governmental consent, approval, recording, qualification or authorization.

10. Setoffs. If the Debtor shall fail generally to pay its debts as such debts become due, or any other Event of Default occurs and shall not have been waived by the Secured Party, the Secured Party shall have the right to setoff any indebtedness from the Secured Party to the Debtor and to apply the same toward the payment of any indebtedness from the Debtor to the Secured Party, whether or not said indebtedness, or any part hereof shall then be due.

11. Reinstatement. This Agreement shall continue to be effective, or be reinstated, as the case may be, at any time any amount received by the Secured Party in respect of the Secured Obligations (as defined in the Loan Agreement) must, by order of a court, be restored or returned by the Secured Party upon the insolvency, bankruptcy, dissolution, liquidation or reorganization of the Debtor or upon the appointment of an intervenor or conservator of, or trustee or similar official for the Debtor or any substantial part of its properties, or otherwise, all as though such payments had not been made.

12. Notices. Except as otherwise provided herein, notice to the Debtor or to the Secured Party shall be in writing and deemed to have been sufficiently given or served for all purposes hereof if personally delivered or mailed by first class certified or registered mail, return receipt requested, postage

prepaid, at the respective addresses set forth in the preamble hereto, with copies to the parties designated therein, or at such other address as the party to whom such notice is directed may have designated by like notice in writing to the other parties hereto. A notice shall be deemed to have been given when personally delivered or, if mailed, on the earlier of (i) three business (3) days after the date on which it is deposited in the mails, or (ii) the date on which it is received.

13. Amendment; Miscellaneous. The terms of this Agreement may be amended, modified or waived only with the written consent of the Debtor and the Secured Party. This Agreement shall inure to the benefit of and be binding upon the parties hereto and their respective successors and assigns, and the term "Secured Party" shall be deemed to include any other holder or holders of any of the Secured Obligations (as defined in the Loan Agreement). In case a court of competent jurisdiction shall hold any provision in this Agreement to be invalid, illegal or unenforceable, the validity, legality and enforceability of the remaining provisions shall not in any way be affected or impaired thereby. This Agreement may be executed in any number of counterparts and by the different parties hereto on separate counterparts, each of which when so executed and delivered shall be an original, but all of which together shall constitute one instrument.

14. Governing Law and Jurisdiction. This Agreement, including the validity hereof and the rights and obligations of the parties hereunder, shall be construed in accordance with and governed by the laws of the State of California. The Debtor, to the extent that it may lawfully do so, hereby consents to the jurisdiction of the courts of the State of California, as well as to the jurisdiction of all courts to which an appeal may be taken from such courts, for the purpose of any suit, action or other proceeding arising out of any of its obligations hereunder or with respect to the transactions contemplated hereby, and expressly waives any and all objections it may have as to venue in any such courts. The Debtor further agrees, to the extent that it may lawfully do so, that a summons and complaint commencing an action or proceeding in any of such courts shall be properly served and shall confer personal jurisdiction if served personally or by certified mail to it at its address provided in Section 12 of this Agreement or as otherwise provided under the laws of the State of California.

15. Filings. The Debtor will promptly execute and deliver, in form and substance satisfactory to the Secured Party (or if permitted by law, the Secured Party may themselves execute and file, and at the Secured Party's request, the Debtor will join with the Secured Party in executing, in all public offices wherever filing is deemed by the Secured Party to be necessary or desirable) such financing statements, certificates and other documents or instruments to enable the Secured Party to perfect or from time to time renew the security interests granted hereby, and to perfect or from time to time renew a security interest in any Collateral now owned or hereafter acquired by the Debtor or in any replacements or proceeds thereof.

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IN WITNESS WHEREOF, the parties have caused this Agreement to be executed as a sealed instrument as of the date first above written.

DEBTOR:

PERSIMMON TECHNOLOGIES CORPORATION,
a Delaware corporation

By: _____
Name:
Title:

SECURED PARTY:

AGENT:

HERCULES TECHNOLOGY GROWTH
CAPITAL, INC.

Signature: _____
Print Name: Ben [unclear]
Title: Assistant

LENDER:

HERCULES TECHNOLOGY GROWTH
CAPITAL, INC.

Signature: _____
Print Name: Ben [unclear]
Title: Assistant

SCHEDULE A

Copyrights

The Borrower has common law copyrights in software for operation and control of multi-axis robotic manipulators and similar mechatronic systems, including user/service interfaces, configuration data management, motion planning, trajectory generation, motion control, input/output control, data collection and various related algorithms.

SCHEDULE B

Patents

Attorney File No. [Category]	Our Network File No./Class (Count # = lg. type)	Title	Serial No. (<i>Pub's in Italics</i>)	Date Filed (Action Date)
PERS- <u>101</u> PR (US) PERS-101J (US) [SMM/U]	001 (016, 017)/ <u>MOTORS</u> <u>1</u>	SYSTEM & METHOD FOR MAKING A STRUCTURED MAGNETIC MATERIAL WITH INTEGRATED PARTICLE INSULATION (SPRAY SYSTEM WITH REACTIVE GAS)	61/571,551 13/507,448 <i>US2013/0000447A1</i> FF in PERS 121, 122	06/30/2011 06/29/2012 <i>01/03/2013</i>
PERS- <u>102</u> PR (US) PERS-102J (US) PERS-102T (PCT) [MC/U]	002/ <u>ROBOTS</u> <u>2</u>	SYSTEM & METHOD FOR POSITION SENSING (INDUCTIVE POSITION ENCODER)	61/573,279 13/599,930 PCT/US2012/000376 <i>US2013/0057263A1</i> <i>WO2013/032525A1</i> <i>ALLOWED</i> No PCT exit 12/19/2013	09/02/2011 08/30/2012 08/31/2012 <i>03/07/2013</i> <i>03/07/2013</i>
PERS-103PR	003 (+GOTO 020)	VACUUM- COMPATIBLE DIRECT-DRIVE SYSTEM	(61/627,030) Combined w/020	09/16/2011 (+GOTO 020)
PERS- <u>104</u> PR (US) PERS-104J (US) PERS-104T (PCT) [MC/U]	005/ <u>ROBOTS</u> <u>3</u>	METHOD FOR TRANSPORTING A SUBSTRATE WITH A SUBSTRATE SUPPORT (ROBOT TRAJECTORY GENERATION)	61/573,850 13/614,007 PCT/US2012/000395 <i>US2013/0064637A1</i> <i>WO2013/039550A1</i> <i>US Pat#8,874,258</i> No PCT exit 12/19/2013	09/13/2011 09/13/2012 09/13/2012 <i>03/14/2013</i> <i>03/21/2013</i> <i>10/28/2014</i>
PERS- <u>105</u> PR (US) PERS-105J (US) [VR/U]	006-007/ <u>ROBOTS</u> <u>4</u>	WAFER TRANSPORT SYSTEM (CONTACTLESS LINEAR DRIVE SYSTEM)	61/627,031 (61/627,065) 13/573,475 <i>US2013/0085002A1</i> NO FF	09/16/2011 09/16/2011 09/17/2012 <i>04/04/2013</i>

PERS- 107 PR (US) PERS-107J (US) [VR/U]	008-011/ ROBOTS 5	WAFER TRANSPORT SYSTEM (MAGNETICALLY LEVITATED SYSTEM)	61/627,065 (61/627,031) 13/621,353 <i>US2013/0071208A1</i> <i>US Pat#9,027,739</i> NO FF	09/16/2011 (09/16/2011) 09/17/2012 03/21/2013 05/12/2013
PERS- 108 PR (US) PERS-108J (US) PERS-108T (PCT) [MC/U]	012/ ROBOTS 6	SYSTEM & METHOD FOR OPERATION OF A ROBOT (EFEM WITH TRANSPARENT DISPLAY)	61/627,067 13/614,133 PCT/US2012/000396 <i>US2013/0073092A1</i> <i>WO2013/039551A1</i> <i>US Pat#9,037,297</i> No PCT exit 12/19/2013	09/15/2011 09/13/2012 09/13/2012 03/21/2013 03/21/2013 05/19/2013
PERS-109PR	004 (+GOTO 021)	VACUUM- COMPATIBLE ROBOT ARM SYSTEM	(61/627,052) Combined w/021	09/16/2011 (+GOTO 021)
PERS- 111 PR (US) PERS-111J (US) [VR/U]	013/ ROBOTS 7	ROBOT SYSTEM WITH INDEPENDENT ARMS (ROBOT WITH INDEPENDENT ARMS AND Z DRIVES)	61/628,825 13/670,004 <i>US2013/0121798</i> <i>ALLOWED</i> NO FF	11/07/2011 11/06/2012 05/16/2013
PERS- 113 J (US) [SMM/U]	001 (016, 017)/ MOTORS 8	SYSTEM & METHOD FOR MAKING A STRUCTURED MAGNETIC MATERIAL VIA LAYERED PARTICLE DEPOSITION (SPRAY SYSTEM WITH LAYERED PARTICLES AND INSULATION)	13/507,447 <i>US2013/0000860A1</i> FF in PERS 121, 122	06/29/2012 01/03/2013
PERS- 124 PR (US) PERS-124J (US) [EMT/U/iEdison] NSF PI No. 1113202	018/ MOTORS 9	HYBRID FIELD ELECTRIC MOTOR (HYBRID RAIDAL AXIAL FLUX MOTOR)	61/668,695 13/799,449 <i>US2014/0009025</i> NO FF (03/27/2013)	07/06/2012 03/13/2013 01/09/2014
PERS- 116 PR (US) PERS-116J (US)	014/ ROBOTS 10	VACUUM ROBOT ADAPTED TO GRIP	61/629,830 13/688,635	11/29/2011 11/29/2012

[VR/U]		& TRANSPORT A SUBSTRATE & METHOD THEREOF (LOW POWER EDGE GRIP)	US2013/0294877A1 NO FF	11/17/2013
PERS- <u>117</u> PR (US) PERS-117J (US) PERS- <u>134</u> J (US DIV) [VR/U]	015/ <u>ROBOTS</u> <u>11</u>	HIGH CAPACITY ROBOT ARM (HIGH CAPACITY WRIST)	61/668,661 13/795,736 14/940,192 US2014/0007731 NO FF (03/27/2013)	07/06/2012 03/12/2013 11/13/2015 01/09/2014
PERS- <u>118</u> J (US) [SMM/U]	001 (016, 017)/ <u>MOTORS</u> <u>12</u>	SYSTEM & METHOD FOR MAKING STRUCTURED MAGNETIC MATERIAL FROM INSULATED PARTICLES (COMBUSTION BASED SPRAY DEPOSITION)	13/507,451 US2013/0000861A1 FF in PERS 121, 122	06/29/2012 01/03/2013
PERS- <u>119</u> PR (US) PERS-119J (US) [VR/U]	019/ <u>ROBOTS</u> <u>13</u>	LINEAR ROBOT ARM WITH MULTIPLE END EFFECTORS (ARM WITH SHUTTLES AND SPACED PADDLES)	61/669,812 13/796,578 US2014/0017056A1 No FF 06/04/2013	07/10/2012 03/12/2013 01/16/2014
PERS- <u>121</u> J (US) [SMM/U] PERS-121TW (TW) PERS-121T (PCT) PERS-121EP PERS-121K PERS-121CH PERS-121JJ (122JJ@ITC)	001 (016, 017)/ <u>MOTORS</u> <u>14</u>	SYSTEM & METHOD FOR MAKING A STRUCTURED MATERIAL (SPRAY DEPOSITION WITH A HEATING AND COATING DEVICE)	(61/571,551) 13/507,450 TW101123760 PCT/US2012/000306 US2013/0004359A1 WO2013/002840A1 TW201330030 12805078.8 EP2727217 10-2014-7002611 KR1020140058528 201280032670 CN103636101 2014-518547 JP2014-521209	(06/30/2011) 06/29/2012 06/29/2012 06/29/2012 01/03/2013 01/03/2013 06/29/2012 05/17/2014 06/29/2012 05/14/2014 06/29/2012 03/12/2014 06/29/2012 08/25/2014

<p>PERS-122J (US)</p> <p>PERS-122TW (TW) PERS-122T (PCT) [SMM/U]</p>	<p>001 (016, 017)/MOTORS</p> <p><u>15</u></p>	<p>STRUCTURED MAGNETIC MATERIAL HAVING DOMAINS WITH INSULATED BOUNDARIES (SMC MATERIAL ONLY)</p>	<p>(61/571,551) 13/507,449 ALLOWED TW101123751 PCT/US2012/000307 <i>US2013/0002085A1</i> <i>WO2013/002841A1</i> <i>TW201330029</i> (see 121 for JP, EP, CN, KR)</p>	<p>(06/30/2011) 06/29/2012 06/29/2012 06/29/2012 <i>01/03/2013</i> <i>01/03/2013</i></p>
<p>101A.0001.P1 (US) 101A.0001.U1.US (US) 101A.0001.U1.WO(PCT)</p> <p>101A.0001.U1.KR(KR)</p> <p>101A.0001.U1.CN(CN)</p> <p>101A.0001.U1.JP(JP)</p> <p>[VR/U]</p>	<p>021 (004)/ROBOTS</p> <p><u>16</u></p>	<p>LOW VARIABILITY ROBOT (ROBOT WITH JOINT BASED DRIVES)</p>	<p>(61/627,052) 61/678,721 13/618,117 PCT/US2012/055496 <i>US2013/0071218A1</i> <i>WO2013/040401A1</i> KR2014-7009950 <i>KR2014-84036</i> CN2012800543261 <i>CN103917337</i> JP2014-530870 <i>JP2014-527314</i></p>	<p>(9/16/2011) 08/02/2012 09/14/2012 09/14/2012 <i>03/21/2013</i> <i>03/21/2013</i> 04/15/2014 <i>07/04/2014</i> 05/05/2014 <i>07092014</i> 03/12/2014 <i>10/09/2014</i></p>
<p>101A.0002.P1 (US) 101A.0002.U1.US (US) 101A.0002.U1.WO(PCT)</p> <p>101A.0002.U1.KR(KR)</p> <p>101A.0002.U1.CN(CN)</p> <p>101A.0002.U1.JP(JP)</p> <p>[VR/U]</p>	<p>020 (003)/ROBOTS</p> <p><u>17</u></p>	<p>ROBOT DRIVE WITH PASSIVE ROTOR (ROBOT WITH ROTOR WITH NO COILS OR MAGNETS)</p>	<p>(61/627,030) 61/683,297 13/618,315 PCT/US2012/055505 <i>US2013/0069450A1</i> <i>WO2013/040406A1</i> KR2014-7010008 <i>KR2014-84038</i> CN2012800554764 <i>CN103930363</i> JP2014-530872 <i>JP2014-528170</i></p>	<p>(9/16/2011) 08/15/2012 09/14/2012 09/14/2012 <i>03/21/2013</i> <i>03/21/2013</i> 04/15/2014 <i>07/04/2014</i> 05/12/2014 <i>01/16/2014</i> 03/12/2014 <i>10/23/2014</i></p>
<p>101A.0003.P2(US) 101A.0003.U1(US) [EMT/U]</p>	<p>022/MOTORS</p> <p><u>18</u></p>	<p>HYBRID MOTOR (HYBRID FLUX MOTOR WITH MAGNETS IN STATOR)</p>	<p>61/712,931 13/793,250 <i>US2014/0103752</i> NO FF (08/27/2013)</p>	<p>10/12/2012 03/11/2013 <i>04/17/2014</i></p>
<p>101A.0002.U2.US (US) [VR/U]</p>	<p>023 (020 DIVISION)/ROBOTS</p> <p><u>19</u></p>	<p>ROBOT DRIVE WITH RADIALLY ADJUSTABLE SENSOR CONNECTION</p>	<p>(61/627,030) 13/744,900 <i>US2014/0077637</i> FF – See 020</p>	<p>(9/16/2011) 01/18/2013 <i>03/20/2014</i></p>

		(ROBOT WITH ISOLATED READ HEAD)		
101A. 0002.U3 .US (US) [VR/U]	024 (020 DIVISION)/ ROBOTS 20	ROBOT WITH HEAT DISSIPATING STATOR (HIGH TORQUE VACUUM ROBOT)	(61/627,030) 13/744,966 <i>US2014/007629</i> <i>US Pat#8,716,909</i> FF – See 020	(9/16/2011) 01/18/2013 03/20/2014 05/06/2014
101A. 0004.P1 .(US) 101A.0004.U1.(US) [VR/U]	025/ ROBOTS 21	ROBOT HAVING REPEATABLE DISTURBANCE COMPENSATION ALGORITHM (TORQUE RIPPLE COMPENSATION)	61/727,813 13/793,665 <i>US2014/0139162</i> <i>US Pat#9,041,336</i> No FF (08/27/2013)	11/19/2012 03/11/2013 05/22/2014 05/26/2015
101A.0005.P1.US (US)	026/ROBOTS	ROBOT WITH INTELLIGENT AUXILIARY INTERFACE	61/727,819 ABANDON (08/27/2013)	11/19/2012
101A. 0006.P1 .(US) 101A.0006.U1.(US) [VR/U]	027/ ROBOTS 22	ROBOT WITH HIGH STIFFNESS COUPLING (STIFF SCARA ARM)	61/727,822 13/790,156 <i>US2014/0137690</i> No FF (08/27/2013)	11/19/2012 03/08/2013 05/22/2014
101A. 0007.P1 .US (US) 101A.0007.P2.US (US) 101A.0007.U1.(US) 101A.0007.U1.(WO) 101A.0007.U1.(JP) 101A.0007.U1.(KR) 101A.0007.U1.(CN) [VR/U]	029/ ROBOTS 23	ROBOT HAVING ARM WITH UNEQUAL LINK LENGTHS (UNEQUAL LINK OVER / UNDER ARM)	61/754,125 61/762,063 13/833,732 PCT/US2014/011416 <i>US2014/0205416</i> <i>WO/2014/113364</i> <i>JP</i> <i>KR 2015-7022143</i> <i>CN</i> <i>US Pat# 9,149,936</i> (File JP,KR,CN 05/15/2015)	01/18/2013 02/07/2013 03/15/2013 01/14/2014 07/24/2014 07/24/2014 08/17/2015 08/31/2015 10/06/2015
101A. 0008.U1 .(US) [VR/U]	034/ ROBOTS 24	ADAPTIVE PLACEMENT SYSTEM & METHOD (WAFER PLACEMENT CORRECTION ALGORITHM)	13/836,020 <i>US Pat# 9,196,518</i> No FF & No Pub	03/15/2013 11/24/2015
PERS- 126J (US)	035 (001CIP)	SYSTEM &	13/836,615	03/15/2013

PERS-126T(PCT) [SMM/U/iEdison] NSF PI No. 1113202	<u>/MOTORS</u> <u>25</u>	METHOD FOR MAKING A STRUCTURED MATERIAL WITH INTEGRATED PARTICLE INSULATION (SPRAY DEPOSITION WITH MASKS)	US2013/0292081 PCT/US2014/020736 WO/2014/149761 EU 14769666.0 JP _____ [FILE EU, JP ONLY 08/31/2015]	03/05/2014 03/15/2013 09/25/2014
No File – 06/04/2013	036/ROBOTS	TEACH PENDANT MOVEMENT CONTROL	N/A	N/A
101A. <u>0010</u> .P1.(US) 101A.0010.U1(US) 101A.0010.WO(PCT) [VR/U]	037/ <u>ROBOTS</u> <u>26</u>	ROBOT AND ADAPTIVE PLACEMENT SYSTEM AND METHOD (QUAD APS ROBOT)	61/831,320 14/295,419 PCT/US2014/040748 WO/2014/197537 US2014/0365004 [EXIT TO KR ONLY 09/22/2015]	06/05/2013 06/04/2014 06/04/2014 12/11/2014 12/11/2014 (PCT Exit 01/04/2016)
101A. <u>0009</u> .P1.(US) [VR/P]	038/ <u>ROBOTS</u>	ROBOT WITH INDEPENDENT ARMS	61/825,162 See 059 for conversion	05/20/2013
101A. <u>0011</u> .P1.(US) 101A. <u>0011</u> .U1.(US) [VR/U]	039/ <u>ROBOTS</u> <u>27</u>	REDUCED FOOTPRINT SUBSTRATE TRANSPORT PLATFORM (SMALL FOOTPRINT QUAD PLATFORM)	61/864,028 14/454,926 US2015/0044001 (No FF 07/23/2014)	08/09/2013 08/08/2014 02/12/2015
101A. <u>0012</u> .P1.(US) 101A.0012.U1(US) [VR/U]	040/ <u>ROBOTS</u> <u>28</u>	ROBOT AND ADAPTIVE PLACEMENT SYSTEM AND METHOD (FIDUCIAL BASED APS)	61/868,131 14/295,447 US2014/0365011 (See 037 for FF)	08/21/2013 06/04/2014 12/11/2014
101A. <u>0013</u> .P1(US) 101A. <u>0013</u> .U1(US) [VR/U]	041/ <u>ROBOTS</u> <u>29</u>	SUBSTARTE TRANSPORT VACUUM PLATFORM (LINEAR PLATFORMS)	61/875,275 14/480,803 US2015/0071737 (No FF 07/23/2014)	09/09/2013 09/09/2014 03/12/2015
PERS- <u>131</u> PR (US) 101A. <u>0018</u> .U1(US)	042/ <u>MOTORS</u>	STRUCTURES UTILIZING A SOFT	61/884,415 14/501,603	09/30/2013 09/30/2014

[SMM/U/iEdison] NSF PII No. 1230458	<u>30</u>	MAGNETIC MATERIAL AND METHODS FOR MAKING (FEAL ALLOY & STRUCTURE)	<i>US2015/0118407</i> (See 048 for FF)	<i>04/30/2015</i>
101A. 0014 .P1.(US) 101A. 0014 .P2.(US) 101A. 0014 .U1.(US) 101A. 0014 .U1.(WO) [VR/U]	043/ <u>ROBOTS</u> <u>31</u>	ROBOT HAVING PREDETERMINED ORIENTATION (REPLACEABLE ROBOT DRIVE)	61/937,848 61/970,533 14/617,227 PCT/US2015/14983 <i>US2015/0228509</i> <i>WO2015120369</i>	02/10/2014 03/26/2014 02/09/2015 02/09/2015 <i>08/13/2015</i> <i>08/13/2015</i> (PCT Exit 08/10/2016)
101A. 0015 .P1(US) 101A.0015.U1(US) [VR/U]	044/ <u>ROBOTS</u> <u>32</u>	ROBOT AND ADAPTIVE PLACEMENT SYSTEM AND METHOD (QUAD APS ALGORITHM)	61/945,306 14/295,466 <i>US2014/0365005</i> (See 037 for FF)	02/27/2014 06/04/2014 <i>12/11/2014</i>
101A. 0016 .P1(US) 101A.0016.U1(US) 101A.0016.U1(WO) [VR/U]	045/ <u>ROBOTS</u> <u>33</u>	ROBOT HAVING ISOLATED STATOR AND READ HEAD (ROBOT DRIVE WITH ISOLATION)	61/981,987 14/691,866 PCT/US2015/26752 <i>US 2015/303764</i> <i>WO2015/164298</i>	04/21/2014 04/21/2015 04/21/2015 <i>10/22/2015</i> <i>10/29/2015</i> (PCT Exit 10/21/2016)
101A. 0017 .P1(US) [VR/U]	046/ <u>ROBOTS</u> <u>34</u>	2 LINK ARM TRAJECTORY (2 LINK SPECIFIC TRAJECTORY GENERATION)	61/988,559 14/703,216 <i>US 2015/0314459</i> (Convert US + No FF 01/29/2015)	05/05/2014 05/04/2015 <i>11/05/2015</i>
101A. 0020 .P1(US) 101A. 0020 .U1(US) 101A. 0020 .U1(WO) [VR/U]	047/ <u>ROBOTS</u> <u>35</u>	SUBSTRATE TRANSPORT VACUUM PLATFORM (LINEAR VACUUM PLATFORMS)	61/929,536 14/601,455 PCT/US2015/012155 <i>US2015/0214086</i> <i>WO2015/112538</i>	01/21/2014 01/21/2015 01/21/2015 <i>07/30/2015</i> <i>07/30/2015</i> (PCT Exit 07/21/2016)
PERS- 131 PR (US) PERS- 131 P2 (US) PERS- 131 P3 (US) PERS- 131 P4 (US) 101A. 0019 .U1(US) 101A. 0019 .U1(WO)	048/ <u>MOTORS</u> <u>36</u>	STRUCTURES UTILIZING A SOFT MAGNETIC MATERIAL & METHODS FOR MAKING	61/884,415 61/920,043 61/933,386 61/941,644 14/501,668 PCT/US14/058291	09/30/2013 12/23/2013 01/30/2014 02/19/2014 09/30/2014 09/30/2014

[SMM/U/iEdison]		(HYBRID MOTOR WITH CONICAL STATOR)	WO2015/048733 (PCT Only 07/23/2014)	04/02/2015 (PCT Exit 03/30/2016)
101A.0021.P1(US) [VR/P]	049/ <u>ROBOTS</u> <u>37</u>	ROBOT ADAPTIVE PLACEMENT SYSTEM WITH END EFFECTOR POSITION ESTIMATION (APS WITH FLEXIBLE DYNAMICS)	62/081,209 (CONVERT US & PCT ONLY 09/22/2015)	11/18/2014 (FF/C 11/18/2015)
101A.0022.P1(US) [VR/P]	050/ <u>ROBOTS</u> <u>38</u>	HIGH CAPACITY ROBOT WITH HIGH CAPACITY WRIST (ROBOT WITH COMPOSITE WRIST)	62/087,873 (CONVERT US ONLY 09/22/2015)	12/05/2014 (FF/C 12/05/2015)
101A.0023.P1(US) [SMM/P]	051/ <u>MOTORS</u> <u>39</u>	MOTOR WITH COMPOSITE HOUSING (HOUSING = STATOR MOLD)	62/100,702 (CONVERT US ONLY 09/22/2015)	01/07/2015 (FF/C 01/07/2016)
101A.0024.P1(US) [SMM/P/iEdison] NSF PII No. 1230458	052/ <u>MOTORS</u> <u>40</u>	MOTOR HAVING NON CIRCULAR STATOR (NON CIRCULAR Z AXIS MOTOR)	62/110,752	02/02/2015 (FF/C 02/02/2016)
101A.0025.P1(US) [VR/P]	053/ <u>ROBOTS</u> <u>41</u>	MOVEABLE POWER COUPLING AND ROBOT WITH MOVEABLE POWER COUPLING (NON-CONTACT POWER COUPLING)	62/112,768	02/06/2015 (FF/C 02/06/2016)
101A.0026.P1(US) [VR/P]	054/ <u>ROBOTS</u> <u>42</u>	DUAL ARM ROBOT WITH STACKED SIDE BY SIDE END EFFECTOR CONFIGURATIONS (DUAL ARM	62/112,820	02/06/2015 (FF/C 02/06/2016)

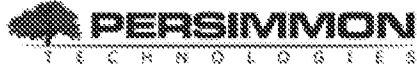
		ROBOT)		
101A.0027.P1(US) [VR/P]	055/ <u>ROBOTS</u> <u>43</u>	TWO DEGREE OF FREEDOM 3 LINK ROBOT ARM MECHANISMS (SINGLE EE ROBOT)	62/132,006	03/12/2015 (FF/C 03/12/2016)
101A.0028.P1(US) 101A.0028.P2(US) [VR/P]	056/ <u>ROBOTS</u> <u>44</u>	ROBOT ARM MECHANISMS WITH 2 END EFFECTORS (DUAL EE ROBOT)	62/135,490 62/137,458	03/19/2015 03/24/2015 (FF/C 03/19/2016)
PERS 133J(US) [VR/U]	057/ <u>ROBOTS</u> <u>45</u>	WAFER TRANSPORT SYSTEM (LINEAR SCREW 133J DIVISION)	14/708,644 <i>US 2015/0243539</i> <i>US Pat# 9,202,735</i>	05/11/2015 <i>08/27/2015</i> <i>12/01/2015</i>
101A.0029.P1(US) [VR/P]	058/ <u>ROBOTS</u> <u>46</u>	UNEQUAL LINK LENGTH ARM WITH VARIABLE NON LINEAR WRIST ORIENTATION (NON LINEAR UNEQUAL LINK LENGTH ROBOT)	62/193,293	07/16/2015 (FF/C 07/16/2016)
101A.0007.U2(US) [VR/U]	059/ <u>ROBOTS</u> <u>47</u>	ROBOT HAVING ARM WITH UNEQUAL LINK LENGTHS (UNEQUAL LINK LENGTH IC 0007 DIV)	14/761,718	07/07/2015
101A.0001.U2(US) [VR/U]	060/ <u>ROBOTS</u> <u>48</u>	LOW VARIABILITY ROBOT (7 AXIS ROBOT 0001 DIV)	14/938,292	11/11/2015
101A.0037.P1(US) 101A.0037.P1(US) [VR/P]	061/ <u>MOTORS</u> <u>49</u>	ELECTRIC BRAKE CALIPER (SELF CONTAINED CALIPER)	62/200,826 62/218,633	08/04/2015 09/15/2015 (FF/C 08/04/2016)
101A.0007.U3(US) [VR/U]	062/ <u>ROBOTS</u> <u>50</u>	ROBOT HAVING ARM WITH UNEQUAL LINK LENGTHS	14/827,506	08/17/2015

		(BROAD UNEQUAL LINK LENGTH ROBOT 0007 CONT)		
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SCHEDULE C

Trademarks

The Borrower may have common law trademark rights in the Persimmon Technologies name and logo:



Attorney File No. [Category]	Our Network File No./Class (Count # = lg. type)	Title	Serial No. <i>(Pub's in Italics)</i>	Date Filed (Action Date)
PERS-115J (US)	033	"PERSIMMON AND DESIGN" ITU TRADEMARK	76/710,009 <i>REG No. 4,309,284</i>	09/15/2011

SCHEDULE D

Licenses

None.