

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
Stylesheet Version v1.2

EPAS ID: PAT5169206

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
Hari Vasudevan	09/28/2018
Eileen A. Mazzochette	09/28/2018
Arman Hajati	09/27/2018
Shingo Yoneoka	09/24/2018
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	Apple Inc.
<b>Street Address:</b>	One Apple Park Way
<b>City:</b>	Cupertino
<b>State/Country:</b>	CALIFORNIA
<b>Postal Code:</b>	95014-2094
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	16147434
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(877)769-7945
<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>	
<b>Phone:</b>	(650) 839-5112
<b>Email:</b>	apsi@fr.com
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<b>ATTORNEY DOCKET NUMBER:</b>	18962-1004001
<b>NAME OF SUBMITTER:</b>	SARAH E. HOKE
<b>SIGNATURE:</b>	/Sarah E. Hoke/
<b>DATE SIGNED:</b>	10/02/2018
<b>Total Attachments: 8</b>	
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ASSIGNMENT

For good and valuable consideration, the receipt of which is hereby acknowledged, ASSIGNORS, Hari Vasudevan, Eileen A. Mazzochette, Arman Hajati, Shingo Yoneoka, hereby sell, assign, and transfer to Apple Inc. (CALIFORNIA corporation), having offices located at One Apple Park Way, Cupertino, California 95014-0642, and its successors, assigns and legal representatives (collectively, "ASSIGNEE") all of the right, title and interest of ASSIGNORS throughout the world in and to any and all inventions and improvements which are the subject of a patent document entitled

CLOSED-LOOP CONTROL OF LINEAR RESONANT ACTUATOR USING BACK EMF AND INERTIAL COMPENSATION

and which is found in

- (a)  U.S. patent application executed on \_\_\_\_\_, entitled as above, listing the above named persons as Inventors.
- (b)  U.S. patent application filed on September 28, 2018  
 under Application No. 16/147,434  
 with Express Mail No. (Application Number not yet known).
- (c)  U.S. Patent No.: \_\_\_\_\_, issued

An attorney of record, or the attorney filing the application, is authorized and requested by the execution of this assignment to insert into this assignment the execution date of the application and/or the filing date and serial number of the application when officially known.

This assignment includes the foregoing patent application or patent; all legal equivalents thereof in any foreign country and all patents issuing therefrom; all United States and foreign patents, utility models, and design registrations granted for any of said inventions and improvements; and the right to claim priority based on the filing date of the foregoing patent application or patent under the International Convention for the Protection of Industrial Property, the Patent Cooperation Treaty, the European Patent Convention, and all other treaties of like purposes. ASSIGNORS authorize ASSIGNEE to apply in all countries in the name of ASSIGNORS or in the name of ASSIGNEE for patents, utility models, and design registrations and like rights of exclusion and for inventors' certificates for said inventions and improvements.

ASSIGNORS hereby covenant that no assignment, sale, agreement or encumbrance has been or will be made or entered into that would conflict with this assignment.

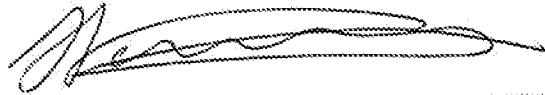
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ASSIGNORS request the Commissioner of Patents and Trademarks to issue said patents of the United States and any reissue or extension thereof to the ASSIGNEE.

Executed this

27 day of SEPT, 2018

Signature of Inventor



\_\_\_\_\_  
Hari Vasudevan

Executed this

\_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_

Signature of Inventor

\_\_\_\_\_  
Eileen A. Mazzoquette

Executed this

\_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_

Signature of Inventor

\_\_\_\_\_  
Arman Hajati

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\_\_\_\_\_  
Shingo Yoneoka

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Hari Vasudevan

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28 day of September, 2018

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\_\_\_\_\_  
Eileen A. Mazzochette

Executed this

Signature of Inventor

27<sup>th</sup> day of September, 2018

\_\_\_\_\_  
*Arman Hajati*  
Arman Hajati

Executed this

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Hari Vasudevan

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\_\_\_\_\_  
Eileen A. Mazzochette

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\_\_\_\_\_ day of \_\_\_\_\_, 20\_\_

Signature of Inventor

\_\_\_\_\_  
Arman Hajati

Executed this

24 day of September, 2018

Signature of Inventor

\_\_\_\_\_  
Shingo Yoneoka



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