PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

EPAS ID: PAT8316389

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
SEQUENCE:	3

CONVEYING PARTY DATA

Name	Execution Date
QORVO US, INC.	12/04/2018

RECEIVING PARTY DATA

Name:	QORVO BIOTECHNOLOGIES, LLC
Street Address:	14505 21ST AVENUE NORTH, SUITE 212
City:	PLYMOUTH
State/Country:	MINNESOTA
Postal Code:	55447

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	17014694

CORRESPONDENCE DATA

Fax Number: (614)792-5536

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.

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ATTORNEY DOCKET NUMBER:	ZOM3784-117
NAME OF SUBMITTER:	BRYAN FINNERAN
SIGNATURE:	/Bryan Finneran/
DATE SIGNED:	12/07/2023

Total Attachments: 10
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PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

EPAS ID: PAT5279594

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
QORVO US, INC.	12/04/2018

RECEIVING PARTY DATA

Name:	QORVO BIOTECHNOLOGIES, LLC
Street Address:	14505 21ST AVE. N
Internal Address:	SUITE #212
City:	PLYMOUTH
State/Country:	MINNESOTA
Postal Code:	55447

PROPERTY NUMBERS Total: 54

Property Type	Number
Application Number:	14893388
Application Number:	14850353
Application Number:	14893404
Application Number:	14893408
Patent Number:	9835595
Application Number:	15830600
Patent Number:	9032782
Patent Number:	9897575
Patent Number:	8409875
Application Number:	15035552
Application Number:	15511130
PCT Number:	US2017029311
Application Number:	15297508
PCT Number:	US2016057653
Application Number:	15334511
Application Number:	15353060
Application Number:	15341330
Application Number:	15337338
PCT Number:	US2016059312

Property Type	Number
Application Number:	15337429
PCT Number:	US2016059327
Application Number:	15339022
Patent Number:	9922809
Application Number:	15293071
Application Number:	15293082
Application Number:	15293091
Application Number:	15293108
PCT Number:	US2016056840
PCT Number:	US2016056843
Application Number:	15357006
PCT Number:	US2016063008
Application Number:	15334528
PCT Number:	US2016058745
Application Number:	15377378
Application Number:	15380482
Application Number:	15380551
PCT Number:	US2016066913
Application Number:	15423141
Application Number:	15453433
PCT Number:	US2017021362
Application Number:	15470111
Application Number:	15334482
PCT Number:	US2017043992
PCT Number:	US2017043959
PCT Number:	US2017045184
PCT Number:	US2017043958
PCT Number:	US2017043732
Application Number:	15334459
PCT Number:	US2016058749
PCT Number:	US2017064926
Application Number:	62646208
Application Number:	62646212
Application Number:	62646213
PCT Number:	US2016059677

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NAME OF SUBMITTER:	JENNIFER ALKOVE
SIGNATURE:	/Jennifer Alkove/
DATE SIGNED:	12/12/2018

Total Attachments: 7
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

MEMORANDUM OF ASSIGNMENT

WHEREAS, Qorvo US, Inc. ("**ASSIGNOR**"), owns certain patents, and applications and/or registrations for such patents, as listed in Exhibit A attached hereto and incorporated herein by this reference ("**PATENTS**"); and

WHEREAS, Qorvo Biotechnologies, LLC ("ASSIGNEE"), desires to acquire all of the rights, title and interest of ASSIGNOR in, to and under the PATENTS, together with the goodwill of the business symbolized by the PATENTS; and

WHEREAS, ASSIGNEE is a wholly-owned subsidiary of ASSIGNOR and is engaged in a business to which the PATENTS relate; and

WHEREAS, ASSIGNOR and ASSIGNEE have entered into a certain Capital Contribution Agreement effective November 1, 2018 (the "**Agreement**"), by which the ASSIGNOR has agreed to contribute certain capital to ASSIGNEE, including, among other things, all right, title and interest in and to the PATENTS and in and to the registrations and/or applications for same from ASSIGNOR to ASSIGNEE; and

WHEREAS this Memorandum of Assignment is a recordable portion of the Agreement.

NOW, THEREFORE, in consideration of the mutual covenants and agreements by and between the ASSIGNEE and ASSIGNOR as set forth in the Agreement, the receipt and sufficiency of which hereby is acknowledged, ASSIGNOR has assigned, transferred and conveyed unto ASSIGNEE its entire right, title and interest in and to the PATENTS, and to the applications and/or registrations for the PATENTS (and the right to apply for any of the foregoing), together with the goodwill of the business symbolized by the PATENTS and the portion of the business of the ASSIGNOR to which the PATENTS pertain; all rights to causes of action and remedies related thereto (including, without limitation, the right to sue for past, present or future infringement, misappropriation or violation of rights related to the foregoing); and any and all other rights and interests arising out of, in connection with or in relation to the PATENTS.

[Signature Page Follows]

IN WITNESS WHEREOF, ASSIGNOR has caused this Assignment to be duly executed by an authorized officer on this 4 day of December, 2018.

Qorvo US, Inc.

By: _____
Jeffrey C. Howland, Vice President

Sworn to and subscribed before me this 4 day of December, 2018.

My Commission expires: 03 Nov 2021

Notary Public

_____

[NOTARIAL SEAL]

LYNN STADLER
NOTARY
My Comm. Exp.
03/NOV/2021
PUBLIC
ALAMANCE COUNTY, NC

[Signature Page to Patent Assignment]

Exhibit A

PATENTS

Qorvo US, Inc.

Application No.	Title	Patent No.
14/893,388	Two Part Assembly	
14801303.0	Europe - Two Part Assembly	
201480029605.1	China - Two Part Assembly	
14/850,353	Thin Film Bulk Acoustic Resonator With Signal Enhancement	
14764974.3	Europe - Thin Film Bulk Acoustic Resonator With Signal Enhancement	
15842191.7	Europe - Thin Film Bulk Acoustic Resonator With Signal Enhancement	
2017-533712	Japan - Thin Film Bulk Acoustic Resonator With Signal Enhancement	
201480026202.1	China - Thin Film Bulk Acoustic Resonator With Signal Enhancement	
201580049756.8	China - Thin Film Bulk Acoustic Resonator With Signal Enhancement	
14/893,404	Resonator Sensor Module System and Method	
14/893,408	Interconnect Device and Module Using Same	
14801041.6	Europe - Interconnect Device and Module Using Same	
201480027491.7	China - Interconnect Device and Module Using Same	
14/893,395	Sensors, Methods of Making and Devices	9,835,595
15/830,600	Sensors, Methods of Making and Devices	
14801619.9	Europe - Sensors, Methods of Making and Devices Including Same	
201480029585.8	China - Sensors, Methods of Making and Devices Including Same	
13/162,353	Diagnotic Testing Sensors For Resonant Detectors	9,032,782
14/714,710	Diagnostic Testing Sensors For Resonant Detectors	9,897,575

13/278,032	Measurement of Binding Kinetics With a Resonating Sensor	8,409,875
11835164.2	Europe - Apparatus and Method For Measuring Binding Kinetics With a Resonating Sensor	
201180061100.X	China - Apparatus and Method For Measuring Binding Kinetics With a Resonating Sensor	201180061100.X
15/035,552	Sensors Having Internal Calibration or Positive Controls	
15/511,130	Mass Detection Through Redox Coupling	
15842341.8	Europe - Mass Detection Through Redox Coupling	
2017-533725	Japan - Mass Detection Through Redox Coupling	
201580049670.5	China - Mass Detection Through Redox Coupling	
PCT/US2017/029311	Resonator for Detecting Single Molecule Binding	
15/297,508	Resonator Structure With Enhanced Reflection of Shear and Longitudinal Modes of Acoustic Vibrations	
PCT/US2016/057653	Resonator Structure With Enhanced Reflection of Shear and Longitudinal Modes of Acoustic Vibrations	
16787698.6	Resonator Structure With Enhanced Reflection of Shear and Longitudinal Modes of Acoustic Vibrations	
15/334,511	Acoustic Resonator Devices and Methods Providing Patterned Functionalization Areas	
15/353,060	BAW Sensor With Passive Mixing Structures	
15/341,330	Fluidic Device With Fluid Port Orthogonal to Functionalized Active Region	
15/337,338	Sensor Device With BAW Resonator and Through-Substrate Fluidic Vias	
PCT/US2016/059312	Sensor Device With BAW Resonator and Through-Substrate Fluidic Vias	
16794847.0	Sensor Device With BAW Resonator and Through-Substrate Fluidic Vias	

201680063164.6	Sensor Device With BAW Resonator and Through-Substrate Fluidic Vias	
15/337,429	Fluidic Device Including BAW Resontators Along Opposing Channel Surfaces	
PCT/US2016/059327	Fluidic Device Including BAW Resontators Along Opposing Channel Surfaces	
15/339,062	BAW Sensor With Enhanced Surface Area Active Region	
PCT/US2016/059677	BAW Sensor With Enhanced Surface Area Active Region	
15/339,022	Multi-Frequency BAW Mixing and Sensing System and Method	
15/293,063	Deposition System For Growth of Inclined C-Axis Piezoelectric Material Structures	9,922,809
15/293,071	Methods For Fabricating Acoustic Structure With Inclined C-Axis Piezoelectric Bulk and Crystalline Seed Layers	
15/293,082	Acoustic Resonator Structure With Inclined C-Axis Piezoelectric Bulk and Crystalline Seed Layers	
15/293,091	Multi-Stage Deposition System For Growth of Inclined C-Axis Piezoelectric Material Structures	
15/293,108	Methods For Producing Piezoelectric Bulk and Crystalline Seed Layers of Different C-Axis Orientation Distributions	
PCT/US2016/056840	Deposition System For Growth of Inclined C-Axis Piezoelectric Material Structures	
PCT/US2016/056843	Multi-Stage Deposition System For Growth of Inclined C-Axis Piezoelectric Material Structures	
15/357,006	Acoustic Resonator With Reduced Mechanical Clamping of an Active Region For Enhanced Shear Mode Response	
PCT/US2016/063008	Acoustic Resonator With Reduced Mechanical Clamping of an Active Region For Enhanced Shear Mode Response	
16810165.7	Acoustic Resonator With Reduced Mechanical Clamping of an Active Region For Enhanced Shear Mode Response	
15/334,528	Acoustic Resonator Devices and Fabrication Methods Providing Hermeticity and Surface Functionalization	

PCT/US2016/058745	Acoustic Resonator Devices and Fabrication Methods Providing Hermeticity and Surface Functionalization	
16794124.4	Acoustic Resonator Devices and Fabrication Methods Providing Hermeticity and Surface Functionalization	
15/377,378	BAW Sensor Device With Peel-Resistant Wall Structure	
15/380,482	Temperature Compensation and Operational Configuration For Bulk Acoustic Wave Resonator Devices	
15/380,551	Temperature Compensation and Operational Configuration For Bulk Acoustic Wave Resonator Devices	
PCT/US2016/066913	Temperature Compensation and Operational Configuration For Bulk Acoustic Wave Resonator Devices	
15/423,141	BAW Sensing and Filtration Device and Related Methods	
15/453,433	BAW Sensor Fluidic Device With Increased Dynamic Measurement Range	
PCT/US2017/021362	BAW Sensor Fluidic Device With Increased Dynamic Measurement Range	
15/470,111	Fluidic Sensor Device Having UV-Blocking Cover	
15/334,482	Acoustic Resonator Devices and Methods With Noble Metal Layer For Functionalization	
PCT/US2017/043992	Cartridges For Integrated BAW Biosensors And Methods For Using The Same	
PCT/US2017/043959	Microfluid Sensors Using Electrophoresis	
PCT/US2017/045184	Biosensor Cartridge With Sample Acquisition	
PCT/US2017/043958	BAW Biosensor Including Heater and Temperature Sensor and Methods for Using the Same	
PCT/US2017/043732	Biosensor For Coagulation Testing	
15/334,459	Acoustic Resonator Device With Controlled Placement of Functionalization Material	
PCT/US2016/058749	Acoustic Resonator Device With Controlled Placement of Functionalization Material	

PCT/US2017/064926	Bulk Acoustic Wave Sensor Having an Overmoded Resonating Structure	
62/646,208	Piezoelectric Bulk Layers with Tilted C-Axis Orientation and Methods for Making the Same	
62/646,212	Piezoelectric Bulk Layers with Tilted C-Axis Orientation and Methods for Making the Same	
62/646,213	Piezoelectric Bulk Layers with Tilted C-Axis Orientation and Methods for Making the Same	