### 505187741 11/13/2018

### PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE: NEW ASSIGNMENT	
NATURE OF CONVEYANCE:	ASSIGNMENT

#### **CONVEYING PARTY DATA**

Name	Execution Date
JULIO C. COSTA	06/08/2018
MERRILL ALBERT HATCHER JR.	06/08/2018
PETER V. WRIGHT	10/27/2018
JON CHADWICK	06/07/2018

#### **RECEIVING PARTY DATA**

Name:	QORVO US, INC.
Street Address:	7628 THORNDIKE ROAD
City:	GREENSBORO
State/Country:	NORTH CAROLINA
Postal Code:	27409

#### **PROPERTY NUMBERS Total: 1**

Property Type	Number
Application Number:	15992613

#### **CORRESPONDENCE DATA**

**Fax Number:** (877)812-1249

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:** 9192382300

Email: flafrankie@wt-ip.com

Correspondent Name: QORVO AND WITHROW + TERRANOVA

Address Line 1: 106 PINEDALE SPRINGS WAY
Address Line 4: CARY, NORTH CAROLINA 27511

ATTORNEY DOCKET NUMBER:	2867-2202
NAME OF SUBMITTER:	FRAN LAFRANKIE
SIGNATURE:	/Fran LaFrankie/
DATE SIGNED:	11/13/2018

#### **Total Attachments: 8**

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PATENT 505187741 REEL: 047485 FRAME: 0591

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PATENT REEL: 047485 FRAME: 0592

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Invention	WAFER-LEVEL PACKAGING FOR ENHANCED PERFORMANCE
As the below named	l inventor, I hereby declare that:
This declaration is o	lirected to: The attached application; or  United States application or PCT international application number 15/992,613, filed on 5/30/2018.
The above-identified	d application is made or authorized to be made by me.
I believe that I am that application.	ne original inventor or an original joint inventor of a claimed invention in the
	ge that any willful false statement made in this declaration is punishable under 18 or imprisonment of not more than five (5) years, or both.

WHEREAS, <u>Qorvo US</u>, <u>Inc.</u>, a corporation duly organized and existing under the laws of the state of Delaware and having a principal place of business at 7628 Thorndike Road, Greensboro, North Carolina, 27409 (hereinafter referred to as "ASSIGNEE"), is desirous of acquiring the entire right, title, and interest in and to said invention as described in the specification executed by me concurrently herewith, and any and all Letters Patent which shall be granted therefor.

NOW, THEREFORE, To All Whom It May Concern, be it known that for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, I, the said assignor, have sold, assigned, transferred and set over unto the said ASSIGNEE, its successors and assigns, the entire right, title and interest in and to the above-mentioned application and invention and in and to any and all Letters Patent of the United States which may hereafter be granted therefor, and in any and to any and all continuations, continuations-in-part, substitutions, divisions or reissues of said Letters Patent, the same to be held and enjoyed by the said ASSIGNEE, for its interest, and for its own use and behalf, and the use and behalf of its successors and assigns, to the full end of the term for which said Letters Patent may be granted as fully and entirely as the same would have been held and enjoyed by me had this assignment and sale not been made.

I, the said assignor, transfer and set over unto the said ASSIGNEE the rights to the priority application, namely U.S. provisional application 62/529,016 filed on 7/06/2017.

And for the consideration aforesaid, I hereby covenant and agree to and with the said ASSIGNEE, its successors and assigns, that at the time of the execution and delivery of these presents I am a joint and lawful owner of the entire right, title and interest in and to the invention, application and Letters Patent above-mentioned and that the same are unencumbered, and that I have good right and lawful authority to sell and convey the same in the manner herein set forth.

And for the consideration aforesaid, I hereby covenant and agree to and with the said ASSIGNEE, its successors and assigns, that I will, whenever its counsel or the counsel of its successors and assigns, learned in the law, shall advise that an amendment, division, continuation, continuation-in-part, or

PATENT REEL: 047485 FRAME: 0593

I hereby request the Commissioner for Patents to issue the Letters Patent in accordance with this instrument.

For the consideration aforesaid, I have sold, assigned, transferred and set over, and by these presents do sell, assign, transfer and set over, unto the said ASSIGNEE, its successors, assigns or nominee, the entire right, title and interest in and to any and all Letters Patent for said invention which may be granted in countries foreign to the United States and in and to any applications for Letters Patent which may be filed for said invention in countries foreign to the United States and in and to the invention described in said application; and I hereby authorize and empower the said ASSIGNEE, its successors, assigns or nominees to apply for Letters Patent or other form of protection on said invention in its own name or in the name of its successor, assignee, or nominee, in any and all countries where it may desire to file such application and where said application may be filed by another than the inventor; and I hereby covenant and agree to sign all papers and drawings, take all rightful oaths, and do all acts necessary or required to be done for procurement of Letters Patent, or other form of protection, for said invention or inventions in countries foreign to the United States, and for further investing or confirming the right and title therein to the ASSIGNEE, its successors, assignee, or nominee, without charge to the said ASSIGNEE, its successor, assignee or nominee, but at its or their expense.

Date: June 8,2018

IN WITNESS WHEREOF, I hereunto set my hand and seal.

LEGAL NAME OF INVENTOR

Inventor: Julio C. Costa

Signature:

Title of Invention	WAFER-LEVEL PACKAGING FOR ENHANCED PERFORMANCE	
As the below named inventor, I hereby declare that:		
This declaration is o	lirected to: The attached application; or United States application or PCT international application number 15/992,613, filed on 5/30/2018.	
The above-identifie	d application is made or authorized to be made by me.	
I believe that I am t application.	he original inventor or an original joint inventor of a claimed invention in the	
I hereby acknowled U.S.C. 1001 by fine	ge that any willful false statement made in this declaration is punishable under 18 or imprisonment of not more than five (5) years, or both.	
Delaware and havir	US, Inc., a corporation duly organized and existing under the laws of the state of a principal place of business at 7628 Thorndike Road, Greensboro, North creinafter referred to as "ASSIGNEE"), is desirous of acquiring the entire right,	

NOW, THEREFORE, To All Whom It May Concern, be it known that for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, I, the said assignor, have sold, assigned, transferred and set over unto the said ASSIGNEE, its successors and assigns, the entire right, title and interest in and to the above-mentioned application and invention and in and to any and all Letters Patent of the United States which may hereafter be granted therefor, and in any and to any and all continuations, continuations-in-part, substitutions, divisions or reissues of said Letters Patent, the same to be held and enjoyed by the said ASSIGNEE, for its interest, and for its own use and behalf, and the use and behalf of its successors and assigns, to the full end of the term for which said Letters Patent may be granted as fully and entirely as the same would have been held and enjoyed by me had this assignment and sale not been made.

title, and interest in and to said invention as described in the specification executed by me concurrently

herewith, and any and all Letters Patent which shall be granted therefor.

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And for the consideration aforesaid, I hereby covenant and agree to and with the said ASSIGNEE, its successors and assigns, that I will, whenever its counsel or the counsel of its successors and assigns, learned in the law, shall advise that an amendment, division, continuation, continuation-in-part, or

I hereby request the Commissioner for Patents to issue the Letters Patent in accordance with this instrument.

For the consideration aforesaid, I have sold, assigned, transferred and set over, and by these presents do sell, assign, transfer and set over, unto the said ASSIGNEE, its successors, assigns or nominee, the entire right, title and interest in and to any and all Letters Patent for said invention which may be granted in countries foreign to the United States and in and to any applications for Letters Patent which may be filed for said invention in countries foreign to the United States and in and to the invention described in said application; and I hereby authorize and empower the said ASSIGNEE, its successors, assigns or nominees to apply for Letters Patent or other form of protection on said invention in its own name or in the name of its successor, assignee, or nominee, in any and all countries where it may desire to file such application and where said application may be filed by another than the inventor; and I hereby covenant and agree to sign all papers and drawings, take all rightful oaths, and do all acts necessary or required to be done for procurement of Letters Patent, or other form of protection, for said invention or inventions in countries foreign to the United States, and for further investing or confirming the right and title therein to the ASSIGNEE, its successors, assignee, or nominee, without charge to the said ASSIGNEE, its successor, assignee or nominee, but at its or their expense.

IN WITNESS WHEREOF, I hereunto set my hand and seal.

LEGAL NAME OF INVENTOR

Inventor: Merrill Albert Hatcher, Jr.

Date: 6.8.18

Signature: man and Hade

Title of

application.

Invention	WAFER-LEVEL PACKAGING FOR ENHANCED PERFORMANCE	
As the below named inventor, I hereby declare that:		
This declaration is	directed to: The attached application; or United States application or PCT international application number 15/992,613, filed on 5/30/2018.	
The above-identific	ed application is made or authorized to be made by me.	
I believe that I am	the original inventor or an original joint inventor of a claimed invention in the	

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

WHEREAS, <u>Qorvo US</u>, <u>Inc.</u>, a corporation duly organized and existing under the laws of the state of Delaware and having a principal place of business at 7628 Thorndike Road, Greensboro, North Carolina, 27409 (hereinafter referred to as "ASSIGNEE"), is desirous of acquiring the entire right, title, and interest in and to said invention as described in the specification executed by me concurrently herewith, and any and all Letters Patent which shall be granted therefor.

NOW, THEREFORE, To All Whom It May Concern, be it known that for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, I, the said assignor, have sold, assigned, transferred and set over unto the said ASSIGNEE, its successors and assigns, the entire right, title and interest in and to the above-mentioned application and invention and in and to any and all Letters Patent of the United States which may hereafter be granted therefor, and in any and to any and all continuations, continuations-in-part, substitutions, divisions or reissues of said Letters Patent, the same to be held and enjoyed by the said ASSIGNEE, for its interest, and for its own use and behalf, and the use and behalf of its successors and assigns, to the full end of the term for which said Letters Patent may be granted as fully and entirely as the same would have been held and enjoyed by me had this assignment and sale not been made.

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IN WITNESS WHEREOF, I hereunto set my hand and seal.

LEGAL NAME OF INVENTOR

Tarrantan	F) ~+	Sec. 3.7	XX Inches	
Inventor:	ren	CIV.	WIRE	

Signature:

Date

Title of Invention	WAFER-LEVEL PACKAGING FOR ENHANCED PERFORMANCE
As the below name	d inventor, I hereby declare that:
This declaration is	directed to: The attached application; or United States application or PCT international application number 15/992,613, filed on 5/30/2018.
The above-identific	ed application is made or authorized to be made by me.
I believe that I am application.	the original inventor or an original joint inventor of a claimed invention in the
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Delaware and havi	o US, Inc., a corporation duly organized and existing under the laws of the state of a principal place of business at 7628 Thorndike Road, Greensboro, North ereinafter referred to as "ASSIGNEE"), is desirous of acquiring the entire right,

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title, and interest in and to said invention as described in the specification executed by me concurrently

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IN WITNESS WHEREOF, I hereunto set my hand and seal.

LEGAL NAME OF INVENTOR

Inventor: Jon Chadwick

Signature: You Chedurde