## 504110849 11/26/2016

# PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4157519

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

#### **CONVEYING PARTY DATA**

Name	Execution Date
BENJAMIN STASSEN COOK	11/21/2016
ARCHANA VENUGOPAL	11/16/2016
LUIGI COLOMBO	11/15/2016
ROBERT REID DOERING	11/16/2016

#### **RECEIVING PARTY DATA**

Name:	TEXAS INSTRUMENTS INCORPORATED
Street Address:	12500 TI BOULEVARD
Internal Address:	M/S 3999
City:	DALLAS
State/Country:	TEXAS
Postal Code:	75243

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

Property Type	Number
Application Number:	15361394

#### **CORRESPONDENCE DATA**

**Fax Number:** (214)567-2228

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:** 214-479-1241

Email: uspto@ti.com,swalsh@ti.com

Correspondent Name: TEXAS INSTRUMENTS INCORPORATED

Address Line 1: 12500 TI BOULEVARD

Address Line 2: M/S 3999

Address Line 4: DALLAS, TEXAS 75243

ATTORNEY DOCKET NUMBER:	TI-77074
NAME OF SUBMITTER:	SHAWN T. WALSH
SIGNATURE:	/Shawn T. Walsh/
DATE SIGNED:	11/26/2016
	-

**Total Attachments: 4** 

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WHEREAS, I, the undersigned inventor (or one of the undersigned joint inventors), of residence as listed, having invented certain new and useful improvements as below entitled, for which application for United States Letters Patent is made.

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, I hereby sell and assign unto the said TEXAS INSTRUMENTS INCORPORATED, its successors and assigns, my entire right, title and interest in and to the said invention and in and to the said application(s) and all patents which may be granted therefor, and all divisions, reissues, substitutions, continuations, and extensions thereof; and I hereby authorize and request the Patent and Trademark Office to issue all patents for said invention, or patents resulting therefrom, to the said TEXAS INSTRUMENTS INCORPORATED, as assignee of my entire right, title and interest.

I also hereby sell and assign to TEXAS INSTRUMENTS INCORPORATED, its successors and assigns, my corresponding rights to the invention disclosed in said application in all other countries of the world, including the right to claim priority, file applications and obtain patents under the terms of the Paris Convention for the Protection of Industrial Property, and further agree to execute any and all patent applications, assignments, affidavits, and any other papers in connection therewith necessary to perfect such rights.

I hereby further agree that I will communicate to said TEXAS INSTRUMENTS INCORPORATED, or to its successors, assigns, and legal representatives, any facts known to me respecting said invention, and at the expense of said assignee company, testify in any legal proceedings, sign all lawful papers, execute all divisional, continuation, reissue and substitute applications, make all lawful oaths, and generally do everything possible to aid said TEXAS INSTRUMENTS INCORPORATED, its successors, assigns and nominees to obtain and enforce proper patent protection for said invention in all countries.

I authorize the later insertion of the nonprovisional application number and filing date hereinbelow.

IN WITNESS WHEREOF, I hereunto set hand and seal this day and year,

TITLE	INTEGRATED CIRCUIT NANOPARTICLE THERMAL ROUTING STRUCTURE IN INTERCONNECT REGION		
NONPROVISIONAL APPLICATION NO.	FILING DATE		
SIGNATURE OF INVENTOR			
PRINTED NAME / OF INVENTOR	Benjamin Stassen Cook		
DATE	11/21/2016		
RESIDENCE (CITY AND STATE)	Rockwall, TX		

WHEREAS, I, the undersigned inventor (or one of the undersigned joint inventors), of residence as listed, having invented	certain
new and useful improvements as below entitled, for which application for United States Letters Patent is made.	

WHEREAS, TEXAS INSTRUMENTS INCORPORATED, a corporation organized and existing under the laws of the State of Delaware, with a place of business at 12500 TI Boulevard, M/S 3999, Dallas, Texas 75243, is desirous of acquiring my entire right, title and interest in and to the said invention, and to the said application and any Letters Patent that may issue thereon, as well as to U.S. Provisional Application No(s). \_\_\_\_\_\_\_\_, filed \_\_\_\_\_\_\_;

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, I hereby sell and assign unto the said TEXAS INSTRUMENTS INCORPORATED, its successors and assigns, my entire right, title and interest in and to the said invention and in and to the said application(s) and all patents which may be granted therefor, and all divisions, reissues, substitutions, continuations, and extensions thereof, and I hereby authorize and request the Patent and Trademark Office to issue all patents for said invention, or patents resulting therefrom, to the said TEXAS INSTRUMENTS INCORPORATED, as assignee of my entire right, title and interest.

I also hereby sell and assign to TEXAS INSTRUMENTS INCORPORATED, its successors and assigns, my corresponding rights to the invention disclosed in said application in all other countries of the world, including the right to claim priority, file applications and obtain patents under the terms of the Paris Convention for the Protection of Industrial Property, and further agree to execute any and all patent applications, assignments, affidavits, and any other papers in connection therewith necessary to perfect such rights.

I hereby further agree that I will communicate to said TEXAS INSTRUMENTS INCORPORATED, or to its successors, assigns, and legal representatives, any facts known to me respecting said invention, and at the expense of said assignee company, testify in any legal proceedings, sign all lawful papers, execute all divisional, continuation, reissue and substitute applications, make all lawful paths, and generally do everything possible to aid said TEXAS INSTRUMENTS INCORPORATED, its successors, assigns and nominees to obtain and enforce proper patent protection for said invention in all countries.

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TITLE	INTEGRATED CIRCUIT NANOPARTICLE THERMAL ROUTING STRUCTURE IN INTERCONNECT REGION		
NONPROVISIONAL APPLICATION NO.		FILING DATE	

SIGNATURE OF INVENTOR	VAL
PRINTED NAME OF INVENTOR	Archana Venugopal
DATE	16 NOV 2016
RESIDENCE (CITY AND STATE)	Dallas, TX

WHEREAS, I, the undersigned inventor (or one of the undersigned joint inventors), of residence as listed, having invented certain new and useful improvements as below entitled, for which application for United States Letters Patent is made.

WHEREAS, TEXAS INSTRUMENTS INCORPORATED, a corporation organized and existing under the laws of the State of Delaware, with a place of business at 12500 TI Boulevard, M/S 3999, Dallas, Texas 75243, is desirous of acquiring my entire right, title and interest in and to the said invention, and to the said application and any Letters Patent that may issue thereon, as well as to U.S. Provisional Application No(s). \_\_\_\_\_\_\_\_, filed \_\_\_\_\_\_\_;

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged. I hereby sell and assign unto the said TEXAS INSTRUMENTS INCORPORATED, its successors and assigns, my entire right, title and interest in and to the said invention and in and to the said application(s) and all patents which may be granted therefor, and all divisions, reissues, substitutions, continuations, and extensions thereof; and I hereby authorize and request the Patent and Trademark Office to issue all patents for said invention, or patents resulting therefrom, to the said TEXAS INSTRUMENTS INCORPORATED, as assignee of my entire right, title and interest.

I also hereby sell and assign to TEXAS INSTRUMENTS INCORPORATED, its successors and assigns, my corresponding rights to the invention disclosed in said application in all other countries of the world, including the right to claim priority, file applications and obtain patents under the terms of the Paris Convention for the Protection of Industrial Property, and further agree to execute any and all patent applications, assignments, affidavits, and any other papers in connection therewith necessary to perfect such rights.

I hereby further agree that I will communicate to said TEXAS INSTRUMENTS INCORPORATED, or to its successors, assigns, and legal representatives, any facts known to me respecting said invention, and at the expense of said assignee company, testify in any legal proceedings, sign all lawful papers, execute all divisional, continuation, reissue and substitute applications, make all lawful oaths, and generally do everything possible to aid said TEXAS INSTRUMENTS INCORPORATED, its successors, assigns and nominees to obtain and enforce proper patent protection for said invention in all countries.

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NONPROVISIONAL APPLICATION NO.	FILING DATE		
SIGNATURE OF INVENTOR			
PRINTED NAME OF INVENTOR	Luígi Colombo		
DATE	11/15/16		
RESIDENCE (CITY AND STATE)	Dailas, TX		

WHEREAS, I, the undersinew and useful improvements as be	gned inventor (or one of the undersig slow entitled, for which application for	ned joint inventors), of residen United States Letters Patent i	ce as listed, having invented certain s made.
WHEREAS, TEXAS INSTRUMENTS INCORPORATED, a corporation organized and existing under the laws of the State of Delaware, with a place of business at 12500 TI Boulevard, M/S 3999, Dallas, Texas 75243, is desirous of acquiring my entire right, title and interest in and to the said invention, and to the said application and any Letters Patent that may issue thereon, as well as to U.S. Provisional Application No(s).			
NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, I hereby sell and assign unto the said TEXAS INSTRUMENTS INCORPORATED, its successors and assigns, my entire right, title and interest in and to the said invention and in and to the said application(s) and all patents which may be granted therefor, and all divisions, reissues, substitutions, continuations, and extensions thereof; and I hereby authorize and request the Patent and Trademark Office to issue all patents for said invention, or patents resulting therefrom, to the said TEXAS INSTRUMENTS INCORPORATED, as assignee of my entire right, title and interest.			
I also hereby sell and assign to TEXAS INSTRUMENTS INCORPORATED, its successors and assigns, my corresponding rights to the invention disclosed in said application in all other countries of the world, including the right to claim priority, file applications and obtain patents under the terms of the Paris Convention for the Protection of Industrial Property, and further agree to execute any and all patent applications, assignments, affidavits, and any other papers in connection therewith necessary to perfect such rights.			
I hereby further agree that I will communicate to said TEXAS INSTRUMENTS INCORPORATED, or to its successors, assigns, and legal representatives, any facts known to me respecting said invention, and at the expense of said assignee company, testify in any legal proceedings, sign all lawful papers, execute all divisional, continuation, reissue and substitute applications, make all lawful oaths, and generally do everything possible to aid said TEXAS INSTRUMENTS INCORPORATED, its successors, assigns and nominees to obtain and enforce proper patent protection for said invention in all countries.			
I authorize the later insertion of the nonprovisional application number and filing date hereinbelow.			
IN WITNESS WHEREOF, I hereunto set hand and seal this day and year;			
TITLE	INTEGRATED CIRCUIT NANOPARTICLE THERMAL ROUTING STRUCTURE IN INTERCONNECT REGION		
NONPROVISIONAL APPLICATION NO.		FILING DATE	
SIGNATURE OF INVENTOR	Resta Di	•	
PRINTED NAME OF INVENTOR	Robert Reid Doering		

1(-16-2016

Garland, TX

PATENT REEL: 040419 FRAME: 0548

**RECORDED: 11/26/2016** 

DATE

RESIDENCE

(CITY AND STATE)