#### PATENT ASSIGNMENT

## Electronic Version v1.1 Stylesheet Version v1.1

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

#### **CONVEYING PARTY DATA**

Name	Execution Date
Chi-Sheng Chen	02/25/2013
Shin-Chi Chen	02/25/2013
Chih-Yueh Li	02/25/2013
Ted Ming-Lang Guo	11/26/2012
Bo-Syuan Lee	11/26/2012
Tsung-Hsun Tsai	02/25/2013
Yu-Chin Cheng	12/27/2012

#### **RECEIVING PARTY DATA**

Name:	UNITED MICROELECTRONICS CORP.
Street Address:	No.3, Li-Hsin Road 2, Science-Based Industrial Park
City:	Hsin-Chu City
State/Country:	TAIWAN

#### PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	13784846

#### **CORRESPONDENCE DATA**

Fax Number: 7039974517

Correspondence will be sent via US Mail when the fax attempt is unsuccessful.

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Patent.admin.uspto.cr@naipo.com Email:

Correspondent Name: WINSTON HSU Address Line 1: P.O.BOX 506

Address Line 4: Merrifield, VIRGINIA 22116

ATTORNEY DOCKET NUMBER: NAUP1570USA

NAME OF SUBMITTER: SIBYL YU

REEL: 029919 FRAME: 0388

PATENT

502252659



PATENT REEL: 029919 FRAME: 0389

METHOD FOR REMOVING NITRIDE	MATERIAL		
As the below named inventor, I hereby declaration is directed to:	re that:		
The attached application, or			
☐ United States application number		filed on	, or
☐ PCT international application numb		filed on _	<del></del>
The above-identified application was made of	r authorized to be made by	/ me.	
I believe that I am the original inventor or an application.	original joint inventor of a c	claimed invention in t	he
I hereby acknowledge that any willful false st under18 U.S.C. 1001 by fine or imprisonmen	atement made in this declar t of not more than five (5) y	aration is punishable years, or both.	
In consideration of the payment by UNITE		CS having a post	tal address of
No.3, Li-Hsin Road 2, Science-Based	l Industrial Park, Hsin	 -Chu City 300, Ta	aiwan, R.O.C
(referred to as "ASSIGNEE"below) to I of the acknowledged, andfor other good and valual	sum of One Dollar (\$ 1.00 ble consideration.	), the receipt of which	h is hereby
I hereby sell, assign and transfer to ASSIGN the entire right, title and interest in and to any invention as above-identified application and invention by the above application or any cor substitutes, or extensions thereof, and as to	and all improvements whi in and to, all Letters Pater, itinuations, continuation-in-	ich are disclosed in that to be obtained for s -part, divisions, renev	he said wals.
I hereby covenant that no assignment, sale, entered into which would conflict with this as:	agreement or encumbrance signment;	e has been or will be	made or
I further covenant that ASSIGNEE will, upon and documents relating to said invention and known and accessible to I and will testify as t related thereto and will promptly execute and	said Letters Patent and le o the same in any interfere	gal equivalents as ma ence, litigation procee	av be
representatives any and all papers, instrume maintain, issue and enforce said application, equivalents thereof which may be necessary IN WINTNESS WHEREOF, I have hereunto	said invention and said Legor desirable to carry out the	tters Patent and said e proposes thereof.	l Date of signing
Note: An application data sheet (PTO/SB/14 inventive entity, must accompany this form. L	or equivalent), including na lse this form for <u>each addit</u>	aming the entire ional inventor.	

Page 1 of 14

NPO#NAU-P1570-USA:0 CUST#UMCD-2012-0157

Title of Invention:

Inventor: Chi-Sheng Chen

Signature: Chi-Sheng Chen

Date: FEB 2 5 2013

Pa

2 of 14

F#NPO-P0002E-US1201 DSC0-101U016126

NPO#NAU-P1570-USA:0 CUST#UMCD-2012-0157

PATENT \_\_\_\_\_ REEL: 029919 FRAME: 0391

As the below named inventor, I here This declaration is directed to:	by declare that:	
☑ The attached application, or		
☐ United States application nu	ımberfi	led on, or
☐ PCT international applicatio	n number	_filed on
The above-identified application was	s made or authorized to be made by	me.
I believe that I am the original invent application.	or or an original joint inventor of a cl	aimed invention in the
I hereby acknowledge that any willfu under18 U.S.C. 1001 by fine or impr	I false statement made in this declar isonment of not more than five (5) ye	ation is punishable ears, or both.
In consideration of the payment by	UNITED MICROELECTRONIC CORP.	having a postal address of
No.3, Li-Hsin Road 2, Science	-Based Industrial Park, Hsin-	——— Chu City 300, Taiwan, R.O.C
(referred to as "ASSIGNEE"below) to acknowledged, andfor other good ar	o I of the sum of One Dollar (\$ 1.00) and valuable consideration.	the receipt of which is hereby
I hereby sell, assign and transfer to A the entire right, title and interest in an invention as above-identified applica invention by the above application of	nd to any and all improvements whic tion and, in and to, all Letters Paten	h are disclosed in the to be obtained for said

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

substitutes, or extensions thereof, and as to Letters Patent any reissue or re-examination thereof.

I further covenant that ASSIGNEE will, upon its request, be provided promptly with all pertinent facts and documents relating to said invention and said Letters Patent and legal equivalents as may be known and accessible to I and will testify as to the same in any interference, litigation proceeding related thereto and will promptly execute and deliver to ASSIGNEE or its legal

representatives any and all papers, instruments or affidavits required to apply for, obtain, maintain, issue and enforce said application, said invention and said Letters Patent and said equivalents thereof which may be necessary or desirable to carry out the proposes thereof. IN WINTNESS WHEREOF, I have hereunto set hand and seal this FFB 2 5 2013 (Date of signing)

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form. Use this form for each additional inventor.

Page 3 of 14

F#NPO-P0002E-US1201

Title of Invention:

METHOD FOR REMOVING NITRIDE MATERIAL

	ME OF INVENTOR(				
ventor:	Shin-Chi Chen		Date:	FEB 25 2013	
gnature:	Skin	r-Chi	Chen		
#NAU-P15	0.4211.05	Page	e 4 of 14	C#NIC	PO-P000
T#UMCD-:		_	·		0-101U

PATENT REEL: 029919 FRAME: 0393

METHOD FOR REMOVING NITRIDE MATERIAL
As the below named inventor, I hereby declare that: This declaration is directed to:
☑ The attached application, or
☐ United States application number filed on, or
☐ PCT international application numberfiled on
The above-identified application was 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 application.
I hereby acknowledge that any willful false statement made in this declaration is punishable under18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.
In consideration of the payment by UNITED MICROELECTRONICS having a postal address of CORP.
No.3, Li-Hsin Road 2, Science-Based Industrial Park, Hsin-Chu City 300, Taiwan, R.O.C
(referred to as "ASSIGNEE" below) to I of the sum of One Dollar (\$ 1.00), the receipt of which is hereby acknowledged, and for other good and valuable consideration.
I hereby sell, assign and transfer to ASSIGNEE and the successors and assignees of the ASSIGNEE the entire right, title and interest in and to any and all improvements which are disclosed in the invention as above-identified application and, in and to, all Letters Patent to be obtained for said invention by the above application or any continuations, continuation-in-part, divisions, renewals, substitutes, or extensions thereof, and as to Letters Patent any reissue or re-examination thereof.
I hereby covenant that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this assignment;
I further covenant that ASSIGNEE will, upon its request, be provided promptly with all pertinent facts and documents relating to said invention and said Letters Patent and legal equivalents as may be known and accessible to I and will testify as to the same in any interference, litigation proceeding related thereto and will promptly execute and deliver to ASSIGNEE or its legal
representatives any and all papers, instruments or affidavits required to apply for, obtain, maintain, issue and enforce said application, said invention and said Letters Patent and said equivalents thereof which may be necessary or desirable to carry out the proposes thereof.  IN WINTNESS WHEREOF, I have hereunto set hand and seal this FER 2 5 2012 (Date of signing

Page 5 of 14

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form. Use this form for <u>each additional inventor.</u>

NPO#NAU-P1570-USA:0 CUST#UMCD-2012-0157

Title of Invention:

LEGAL NAME OF INVENTOR(ASSIGNOR)

Inventor: Ch

Chih-Yueh Li

Date:

FEB 25 2013

Signature:

Chih-Tueh

NPO#NAU-P1570-USA:0

CUST#UMCD-2012-0157

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F#NPO-P0002E-US1201 DSC0-101U016126

PATENT

REEL: 029919 FRAME: 0395

METHOD FOR REMOVING NITRIDE MATERIAL	
As the below named inventor, I hereby declare that: This declaration is directed to:	
☑ The attached application, or	
☐ United States application numberfiled on, or	
☐ PCT international application numberfiled on	
The above-identified application was 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 application.	
I hereby acknowledge that any willful false statement made in this declaration is punishable under18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.	
In consideration of the payment by UNITED MICROELECTRONICS having a postal address of CORP.	
No.3, Li-Hsin Road 2, Science-Based Industrial Park, Hsin-Chu City 300, Taiwan, R.O.	C.
(referred to as "ASSIGNEE" below) to I of the sum of One Dollar (\$ 1.00), the receipt of which is hereby acknowledged, andfor other good and valuable consideration.	
I hereby sell, assign and transfer to ASSIGNEE and the successors and assignees of the ASSIGNEE the entire right, title and interest in and to any and all improvements which are disclosed in the invention as above-identified application and, in and to, all Letters Patent to be obtained for said invention by the above application or any continuations, continuation-in-part, divisions, renewals, substitutes, or extensions thereof, and as to Letters Patent any reissue or re-examination thereof.	
I hereby covenant that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this assignment;	
I further covenant that ASSIGNEE will, upon its request, be provided promptly with all pertinent facts and documents relating to said invention and said Letters Patent and legal equivalents as may be known and accessible to I and will testify as to the same in any interference, litigation proceeding related thereto and will promptly execute and deliver to ASSIGNEE or its legal	
representatives any and all papers, instruments or affidavits required to apply for, obtain, maintain, issue and enforce said application, said invention and said Letters Patent and said equivalents thereof which may be necessary or desirable to carry out the proposes thereof. IN WINTNESS WHEREOF, I have hereunto set hand and seal this $100 \times 100$ NOV $100 \times 1000$ NOV $100 \times 10000$ NOV $100 \times 100000$ NOV $100 \times 10000$ NOV $100 \times 10000$ NOV $100 \times 10000$ NOV $100 \times 10$	ng)

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form. Use this form for each additional inventor.

Page 7 of 14

DSC0-101U016126

Title of Invention:

Inventor: Ted Ming-Lang Guo

Date: 20 | 2 | 11 (1)

Signature: (e) Ming-Lang Guo

NPO#NAU-P1570-USA:0 CUST#UMCD-2012-0157 Page 8 of 14

F#NPO-P0002E-US1201 DSC0-101U016126

PATENT

REEL: 029919 FRAME: 0397

#### Title of Invention: METHOD FOR REMOVING NITRIDE MATERIAL

As the below named inventor, I here This declaration is directed to:	by declare that:			
☑ The attached application, or				
☐ United States application number		file	filed on	
☐ PCT international application number			filed on	
The above-identified application was	made or authorized	to be made by m	ne.	
I believe that I am the original invent application.	or or an original joint	inventor of a clai	med invention in	the
I hereby acknowledge that any willfu under18 U.S.C. 1001 by fine or impr				•
In consideration of the payment by	UNITED MICROE	ELECTRONICS	having a pos	stal address of
No.3, Li-Hsin Road 2, Science	-Based Industria	l Park, Hsin-C	hu City 300, T	aiwan, R.O.C.
(referred to as "ASSIGNEE"below) to acknowledged, andfor other good ar			he receipt of which	ch is hereby
I hereby sell, assign and transfer to a the entire right, title and interest in a invention as above-identified applica invention by the above application of substitutes, or extensions thereof, ar	nd to any and all imp tion and, in and to, a r any continuations, c	rovements which Il Letters Patent t continuation-in-pa	are disclosed in to be obtained for art, divisions, rene	the · said ewals,
I hereby covenant that no assignment entered into which would conflict with		r encumbrance h	nas been or will b	e made or
I further covenant that ASSIGNEE w and documents relating to said inver known and accessible to I and will te related thereto and will promptly exe	ntion and said Letters estify as to the same	Patent and lega in any interferenc	l equivalents as r ce, litigation proce	nay be
representatives any and all papers, i maintain, issue and enforce said app equivalents thereof which may be ne IN WINTNESS WHEREOF, I have h	olication, said invention ecessary or desirable	on and said Lette to carry out the	rs Patent and sai	
Note: An application data sheet (PT0 inventive entity, must accompany thi				

Page 9 of 14

LEGAL NAME OF INVENTOR(ASSIGNOR)

Inventor:

**Bo-Syuan Lee** 

Date: 2012/11/26

Signature:

Bo-Syuan Lee

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F#NPO-P0002E-US1201 DSC0-101U016126

NPO#NAU-P1570-USA:0 CUST#UMCD-2012-0157

# Title of Invention: METHOD FOR REMOVING NITRIDE MATERIAL

As the below named inventor, I here This declaration is directed to:	by declare that:			
☑ The attached application, or	•			
☐ United States application number		filed	on	_, or
☐ PCT international applicatio	n number	file	ed on	
The above-identified application was	made or authorized to be r	nade by me.		
I believe that I am the original invent application.	or or an original joint invent	or of a claime	ed invention in the	
I hereby acknowledge that any willfu under18 U.S.C. 1001 by fine or impr	l false statement made in th isonment of not more than f	is declaration ive (5) years	n is punishable , or both.	
In consideration of the payment by	UNITED MICROELECT	FRONICS	having a postal ad	ldress of
No.3, Li-Hsin Road 2, Science	-Based Industrial Park	κ, Hsin-Chι	ı City 300, Taiwa	n, R.O.C.
(referred to as "ASSIGNEE"below) to acknowledged, andfor other good ar		(\$ 1.00), the	receipt of which is h	ereby
I hereby sell, assign and transfer to a the entire right, title and interest in a invention as above-identified applica invention by the above application of substitutes, or extensions thereof, ar	nd to any and all improveme tion and, in and to, all Lette r any continuations, continu	ents which ar rs Patent to t ation-in-part,	e disclosed in the be obtained for said divisions, renewals,	
I hereby covenant that no assignment entered into which would conflict with		mbrance has	been or will be mad	e or
I further covenant that ASSIGNEE wand documents relating to said inverknown and accessible to I and will terelated thereto and will promptly exe	ntion and said Letters Paten estify as to the same in any i	t and legal ed interference,	quivalents as may be litigation proceeding	9
representatives any and all papers, i maintain, issue and enforce said app equivalents thereof which may be ne IN WINTNESS WHEREOF, I have h	olication, said invention and ecessary or desirable to carr	said Letters y out the pro	Patent and said poses thereof.	of signing)
Note: An application data sheet (PTC				

Page 11 of 14

F#NPO-P0002E-US1201 DSC0-101U016126

NPO#NAU-P1570-USA:0 CUST#UMCD-2012-0157

LEGAL NAME OF INVENTOR(ASSIGNOR)				
Inventor:	Tsung-Hsun Tsai	Date:	FEB 25 2013	
Signature:	Tsung-Houn Isai.			

NPO#NAU-P1570-USA:0 CUST#UMCD-2012-0157 Page 12 of 14

F#NPO-P0002E-US1201 DSC0-101U016126

PATENT ....

REEL: 029919 FRAME: 0401

## Title of Invention: METHOD FOR REMOVING NITRIDE MATERIAL

As the below named inventor, I here This declaration is directed to:	by declare that:		
☑ The attached application, or	r		
☐ United States application number		filed on, or	
☐ PCT international application number		filed on	
The above-identified application was	s made or authorized to be made	by me.	
I believe that I am the original inventapplication.	or or an original joint inventor of a	a claimed invention in the	
I hereby acknowledge that any willfuunder18 U.S.C. 1001 by fine or impi			
In consideration of the payment by	UNITED MICROELECTROI	NICS having a postal a	ddress of
No.3, Li-Hsin Road 2, Science	e-Based Industrial Park, Hs	in-Chu City 300, Taiwa	an, R.O.C.
(referred to as "ASSIGNEE"below) t acknowledged, andfor other good at		00), the receipt of which is	hereby
I hereby sell, assign and transfer to the entire right, title and interest in a invention as above-identified application of substitutes, or extensions thereof, as	nd to any and all improvements w ation and, in and to, all Letters Pa r any continuations, continuation-	hich are disclosed in the tent to be obtained for said in-part, divisions, renewals	l 3,
I hereby covenant that no assignme entered into which would conflict wit		nce has been or will be ma	de or
I further covenant that ASSIGNEE wand documents relating to said inverse known and accessible to I and will to related thereto and will promptly exercise.	ntion and said Letters Patent and estify as to the same in any interfe	legal equivalents as may be erence, litigation proceeding	oe .
representatives any and all papers, maintain, issue and enforce said app equivalents thereof which may be no IN WINTNESS WHEREOF, I have h	olication, said invention and said lecessary or desirable to carry out	Letters Patent and said the proposes thereof.	e of signing)
Note: An application data sheet (PT inventive entity, must accompany the			

Page 13 of 14

LEGAL NAME OF INVENTOR(ASSIGNOR)					
Inventor:	Yu-Chin Cheng	Date:	7012, 12.27		
Signature:	Yu-Chin Cheng.				
	()				

NPO#NAU-P1570-USA:0 CUST#UMCD-2012-0157 Page 14 of 14

F#NPO-P0002E-US1201 DSC0-101U016126

REEL: 029919 FRAME: 0403

**RECORDED: 03/05/2013**