505302873 01/30/2019

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 EPAS ID: PAT5349652 Stylesheet Version v1.2

 SUBMISSION TYPE:
 NEW ASSIGNMENT

 NATURE OF CONVEYANCE:
 ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
Wei Chen	01/25/2019
Hui-Lin Wang	01/25/2019
Yu-Ru Yang	01/25/2019
Chin-Fu Lin	01/25/2019
Yi-Syun Chou	01/25/2019
Chun-Yao Yang	01/25/2019

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:	16261584

CORRESPONDENCE DATA

Fax Number: (703)997-4517

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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Correspondent Name: WINSTON HSU

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Address Line 4: NEW TAIPEI CITY, TAIWAN

ATTORNEY DOCKET NUMBER: NAUP3411USA

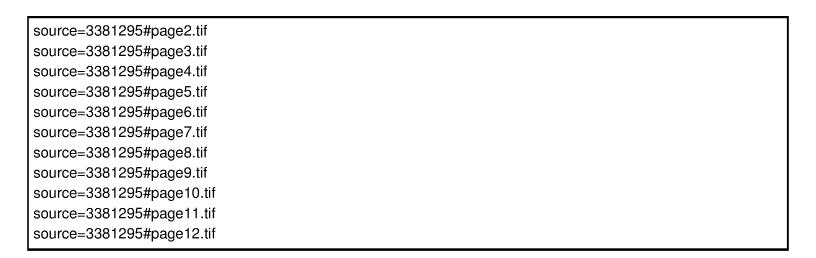
NAME OF SUBMITTER: KATE YEH

SIGNATURE: /KATE YEH/

DATE SIGNED: 01/30/2019

Total Attachments: 12 source=3381295#page1.tif

PATENT 505302873 REEL: 048181 FRAME: 0619



Title of Invention:

MAGNETIC TUNNEL JUNCTION (MTJ) DEVICE AND FORMING METHOD THEREOF

As the below named inventor, I here This declaration is directed to:	by declare that:			
☑ The attached application, or	r			
☐ United States application nu	ımber	filed	on	, or
☐ PCT international applicatio	n number		ed on	
The above-identified application was	made or authorized to			
I believe that I am the original invent application.	or or an original joint inv	entor of a claime	ed invention in t	the
I hereby acknowledge that any willfu under18 U.S.C. 1001 by fine or impr	I false statement made isonment of not more th	in this declaratior an five (5) years,	n is punishable or both.	
In consideration of the payment by	UNITED MICROELI	ECTRONICS	having a pos	tal address of
No.3, Li-Hsin Road 2, Science	-Based Industrial P	ark, Hsin-Chu	– ı City 300, Ta	aiwan, R.O.C
(referred to as "ASSIGNEE"below) to acknowledged, andfor other good an	o I of the sum of One Do	ollar (\$ 1.00) the		
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 or substitutes, or extensions thereof, ar	nd to any and all improv tion and, in and to, all L rany continuations, con	ements which are etters Patent to b tinuation-in-part	e disclosed in the obtained for the divisions, renewalls.	he said wals
I hereby covenant that no assignmer entered into which would conflict with	nt, sale, agreement or e n this assignment;	ncumbrance has	been or will be	made or
I further covenant that ASSIGNEE wand documents relating to said inven known and accessible to I and will te related thereto and will promptly exe	ition and said Letters Pa stify as to the same in a	atent and legal equino interference. I	uivalents as m	av he
representatives any and all papers, in maintain, issue and enforce said app equivalents thereof which may be ne IN WITNESS WHEREOF, I have her	lication, said invention a cessary or desirable to	and said Letters F	Patent and said	
Note: An application data sheet (PTC	D/SB/14 or equivalent), i	ncluding naming	the entire	

Page 1 of 12

inventive entity, must accompany this form. Use this form for each additional inventor.

LEGAL NAME OF INVENTOR(ASSIGNOR)				
Inventor:	Wei Chen	Date:	JAN 2 5 2019	
Signature:	Wei Chen			

NPO#NAU-P3411-USA:0

CUST#UMCD-2018-0531

Page 2 of 12

F#NPO-P0002E-US1201 DSB0-107U037467

P.

Title of Invention:

MAGNETIC TUNNEL JUNCTION (MTJ) DEVICE AND FORMING METHOD THEREOF

As the below named inventor, I hereby This declaration is directed to:	y declare that:			
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☐ United States application num	nber	filed on, c	r	
☐ PCT international application	number	filed on		
The above-identified application was r	made or authorized to be made b	by me.		
I believe that I am the original inventor application.	r or an original joint inventor of a	claimed invention in the		
I hereby acknowledge that any willful funder18 U.S.C. 1001 by fine or impris-	false statement made in this dec onment of not more than five (5)	laration is punishable years, or both.		
	JNITED MICROELECTRON CORP.	IICS having a postal addres	ss of	
No.3, Li-Hsin Road 2, Science-I	Based Industrial Park, Hsi	n-Chu City 300, Taiwan, F	R.O.C	
(referred to as "ASSIGNEE"below) to I acknowledged, andfor other good and	of the sum of One Dollar (\$ 1.0 valuable consideration.	0), the receipt of which is hereb	ру	
I hereby sell, assign and transfer to AS the entire right, title and interest in and invention as above-identified application invention by the above application or a substitutes, or extensions thereof, and	I to any and all improvements whon and, in and to, all Letters Pate any continuations, continuation-in	nich are disclosed in the ent to be obtained for said	<u> </u>	
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, and documents relating to said invention known and accessible to I and will test related thereto and will promptly execu	on and said Letters Patent and le ifv as to the same in any interfer	egal equivalents as may be		
representatives any and all papers, ins maintain, issue and enforce said applic equivalents thereof which may be nece IN WITNESS WHEREOF, I have hereu	cation, said invention and said Le essary or desirable to carry out t	etters Patent and said		

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>

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NPO#NAU-P3411-USA:0 CUST#UMCD-2018-0531

LEGAL NAME OF INVENTOR(ASSIGNOR)

Inventor:

Hui-Lin Wang

Date:

JAN 2 5 2019

Signature:

NPO#NAU-P3411-USA:0 CUST#UMCD-2018-0531 Page 4 of 12

F#NPO-P0002E-US1201 DSB0-107U037467

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(referred to as "ASSIGNEE" below) to acknowledged, and for other good and	Lof the sum of One Dollar (\$ 1.0)	
I hereby sell, assign and transfer to A the entire right, title and interest in an invention as above-identified application or a substitutes, or extensions thereof, and	of to any and all improvements when and, in and to, all Letters Pate any continuations, continuation-in	nich are disclosed in the ent to be obtained for said
I hereby covenant that no assignment entered into which would conflict with	, sale, agreement or encumbrand this assignment;	e has been or will be made or
I further covenant that ASSIGNEE will and documents relating to said invention known and accessible to I and will test related thereto and will promptly executed the said of the said will promptly executed the said will be said with the said will be said will be said with the said will be sai	on and said Letters Patent and le tify as to the same in any interfer	egal equivalents as may be
representatives any and all papers, in maintain, issue and enforce said appli equivalents thereof which may be nec IN WITNESS WHEREOF, I have here	cation, said invention and said Le	etters Patent and said
Note: An application data sheet (PTO/	SB/14 or equivalent), including n	aming the entire

Page 5 of 12

inventive entity, must accompany this form. Use this form for each additional inventor.

NPO#NAU-P3411-USA:0 CUST#UMCD-2018-0531

LEGAL NAME OF INVENTOR(ASSIGNOR)

Inventor: Yu-Ru Yang

Date: JAN 2 5 2019

Signature: JAN 2 5 2019

NPO#NAU-P3411-USA:0 CUST#UMCD-2018-0531 Page 6 of 12

F#NPO-P0002E-US1201 DSB0-107U037467

Title of Invention:

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I hereby sell, assign and transfer to a the entire right, title and interest in a invention as above-identified application of substitutes, or extensions thereof, and	nd to any and all improvem ition and, in and to, all Lette r any continuations, continu	ents which are disciers Patent to be obtained at the contract of the contract	osed in the ained for said	
I hereby covenant that no assignment entered into which would conflict with	nt, sale, agreement or encu h this assignment;	mbrance has been	or will be made 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 Pater estify as to the same in any	it and legal equivale	inte se may ha	
representatives any and all papers, i maintain, issue and enforce said app equivalents thereof which may be ne IN WITNESS WHEREOF, I have her	olication, said invention and ecessary or desirable to car	said Letters Patent	and said	
Note: An application data sheet (PTC	D/SB/14 or equivalent), incl	uding naming the er	ntire	

Page 7 of 12

inventive entity, must accompany this form. Use this form for each additional inventor.

NPO#NAU-P3411-USA:0 CUST#UMCD-2018-0531

Inventor: Chin-Fu Lin Date: JAN 2 5 2019

Signature: Chin-Fu Lin

NPO#NAU-P3411-USA:0 CUST#UMCD-2018-0531 Page 8 of 12

F#NPO-P0002E-US1201 DSB0-107U037467

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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 WITNESS WHEREOF, I have hereunto set hand and seal this on the date(s) indicated.				
Note: An application data sheet (PTC	D/SB/14 or equivalent), including na	aming the entire		

Page 9 of 12

inventive entity, must accompany this form. Use this form for each additional inventor.

LEGAL NAI	ME OF INVENTOR	ASSIGNOR)		
Inventor:	Yi-Syun Chou			Date:	JAN 2 5 2019
Signature:	YT-Syun	Chon			

Page 10 of 12

NPO#NAU-P3411-USA:0 CUST#UMCD-2018-0531

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representatives any and all papers, instrumentation, issue and enforce said applied equivalents thereof which may be need IN WITNESS WHEREOF, I have here	cation, said invention and said L essary or desirable to carry out t	etters Patent and said
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Page 11 of 12

inventive entity, must accompany this form. Use this form for each additional inventor.

NPO#NAU-P3411-USA:0 CUST#UMCD-2018-0531

LEGAL NAME OF INVENTOR(ASSIGNOR)

Inventor: Chun-Yao Yang

Date: JAN 2 5 2019

Signature: Chun-Yao Yang

NPO#NAU-P3411-USA:0 CUST#UMCD-2018-0531 Page 12 of 12

F#NPO-P0002E-US1201 DSB0-107U037467

PATENT REEL: 048181 FRAME: 0632

RECORDED: 01/30/2019