PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5746709

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
Hui-Lin Wang	09/25/2019
Yu-Ping Wang	09/25/2019
Chen-Yi Weng	09/25/2019
Chin-Yang Hsieh	09/25/2019
Si-Han Tsai	09/25/2019
Che-Wei Chang	09/25/2019
Jing-Yin Jhang	09/25/2019

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:	16589083

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

Correspondent Name: WINSTON HSU

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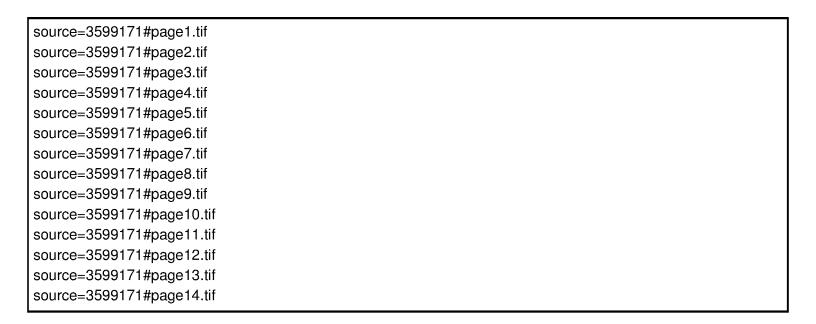
Address Line 4: NEW TAIPEI CITY, TAIWAN

ATTORNEY DOCKET NUMBER:	NAUP3503USA
NAME OF SUBMITTER:	KATE YEH
SIGNATURE:	/KATE YEH/
DATE SIGNED:	09/30/2019

Total Attachments: 14

PATENT REEL: 050571 FRAME: 0329

505699899



PATENT REEL: 050571 FRAME: 0330

Title of Invention: MAGNETORESISTIVE RANDOM ACCESS MEMORY

As the below named inventor, I here This declaration is directed to:	by declare that:			
☑ The attached application, or	-			
☐ United States application nu	ımber	filed o	on	, or
☐ PCT international applicatio	n number	file	ed on	
The above-identified application was	made or authorized to	be made by me.		
I believe that I am the original invent application.	or or an original joint in	nventor of a claime	ed invention in	ı the
I hereby acknowledge that any willfu under18 U.S.C. 1001 by fine or impr	Il false statement made isonment of not more	e in this declaration than five (5) years,	n is punishabl , or both.	e
In consideration of the payment by	UNITED MICROEI	ECTRONICS	having a po	ostal address of
No.3, Li-Hsin Road 2, Science	e-Based Industrial	Park, Hsin-Chu	ı City 300, 7	Гаiwan, R.O.C
(referred to as "ASSIGNEE"below) to acknowledged, and for other good are	o I of the sum of One I nd valuable considerat	Pollar (\$ 1.00), the on.	receipt of whi	ich 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 o substitutes, or extensions thereof, an	nd to any and all impro ation and, in and to, all r any continuations, co	vements which ar Letters Patent to t ntinuation-in-part,	e disclosed in be obtained fo divisions, ren	n the or said newals,
I hereby covenant that no assignme entered into which would conflict wit	nt, sale, agreement or h this assignment;	encumbrance has	been or will b	oe made or
I further covenant that ASSIGNEE wand documents relating to said inverknown and accessible to I and will to related thereto and will promptly exercise.	ntion and said Letters I estify as to the same in	Patent and legal ed any interference,	quivalents as litigation proc	may be
representatives any and all papers, maintain, issue and enforce said appequivalents thereof which may be no IN WITNESS WHEREOF, I have he	olication, said inventior ecessary or desirable t	n and said Letters I o carry out the pro	Patent and sa poses thereof	f.
Note: An application data sheet (PTo inventive entity, must accompany this	O/SB/14 or equivalent) is form. Use this form t	, including naming or <u>each additional</u>	the entire inventor.	

Page 1 of 14

NPO#NAU-P3503-USA:0 CUST#UMCD-2019-0334

LEGAL NA	WE OF INVENTOR(ASSIGNOR)		
Inventor:	Hui-Lin Wang	Date:	SEP 2 5 2019
Signature:	much		
	1		

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NPO#NAU-P3503-USA:0 CUST#UMCD-2019-0334

Title of Invention:

MAGNETORESISTIVE RANDOM ACCESS MEMORY

As the below named inventor, I here This declaration is directed to:	by declare that:		
☑ The attached application, or			
☐ United States application nu	ımber	_filed on	_, or
☐ PCT international application	n number	filed on	
The above-identified application was	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	claimed invention in the	
I hereby acknowledge that any willfu under18 U.S.C. 1001 by fine or impri	I false statement made in this decisonment of not more than five (5	plaration is punishable) years, or both.	
In consideration of the payment by	UNITED MICROELECTRON	NICS having a postal add	dress of
No.3, Li-Hsin Road 2, Science	-Based Industrial Park, Hsi	n-Chu City 300, Taiwaı	n, R.O.C
(referred to as "ASSIGNEE"below) to acknowledged, andfor other good an		00), the receipt of which is he	ereby
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 improvements w tion and, in and to, all Letters Pat r any continuations, continuation-	which are disclosed in the tent to be obtained for said in-part, divisions, renewals.	
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 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 Patent and estify as to the same in any interfe	legal equivalents as may be erence, litigation proceeding	cts
representatives any and all papers, i maintain, issue and enforce said app equivalents thereof which may be ne IN WITNESS WHEREOF, I have her	plication, said invention and said Lecessary or desirable to carry out	Letters Patent and said the proposes thereof.	
Note: An application data sheet (PTC inventive entity, must accompany thi	D/SB/14 or equivalent), including s form. Use this form fo <u>r each ad</u>	naming the entire ditional inventor.	

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NPO#NAU-P3503-USA:0 CUST#UMCD-2019-0334

Inventor: Yu-Ping Wang

Signature: Date: SEP 2 5 2019

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NPO#NAU-P3503-USA:0 CUST#UMCD-2019-0334

Title of Invention:

MAGNETORESISTIVE RANDOM ACCESS MEMORY

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(referred to as "ASSIGNEE" below) to acknowledged, and for other good an	o I of the sum of One Dollar (\$ 1.0 od valuable consideration.	00), the receipt of which is he	ereby
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, in maintain, issue and enforce said app equivalents thereof which may be ne IN WITNESS WHEREOF, I have her	dication, said invention and said Lacessary or desirable to carry out	etters Patent and said the proposes thereof.	
Note: An application data sheet (PTC inventive entity, must accompany this	D/SB/14 or equivalent), including s form. Use this form for <u>each ad</u>	naming the entire ditional inventor.	

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NPO#NAU-P3503-USA:0 CUST#UMCD-2019-0334

LEGAL NAME OF INVENTOR(ASSIGNOR)					
Inventor:	Chen-Yi Weng	Date:	SEP 2 5 2019		
Signature:	Men 41 Weng.				

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NPO#NAU-P3503-USA:0 CUST#UMCD-2019-0334

Title of Invention:

MAGNETORESISTIVE RANDOM ACCESS MEMORY

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I hereby acknowledge that any willfu under18 U.S.C. 1001 by fine or impri	I false statement made in this decisonment of not more than five (5)	elaration is punishable a years, or both.	
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(referred to as "ASSIGNEE"below) to acknowledged, andfor other good an		0), the receipt of which is h	nereby
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 improvements w tion and, in and to, all Letters Pat r any continuations, continuation-i	hich are disclosed in the ent to be obtained for said n-part, divisions, renewals,	
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 w and documents relating to said inven known and accessible to I and will te related thereto and will promptly exe	ntion and said Letters Patent and lestify as to the same in any interfe	legal equivalents as may be rence, litigation proceeding	е
representatives any and all papers, is maintain, issue and enforce said appequivalents thereof which may be not IN WITNESS WHEREOF, I have her	plication, said invention and said Lecessary or desirable to carry out	etters Patent and said. the proposes thereof.	
Note: An application data sheet (PTC inventive entity, must accompany this	D/SB/14 or equivalent), including s s form. Use this form for <u>each add</u>	naming the entire ditional inventor.	

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NPO#NAU-P3503-USA:0 CUST#UMCD-2019-0334

LEGAL NAME OF INVENTOR(ASSIGNOR)

Inventor:

Chin-Yang Hsieh

Date:

SEP 2 5 2019

Signature

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NPO#NAU-P3503-USA:0 CUST#UMCD-2019-0334 F#NPO-P0002E-US1201 DSB0-108U023152

PATENT REEL: 050571 FRAME: 0338

Title of Invention:

MAGNETORESISTIVE RANDOM ACCESS MEMORY

As the below named inventor, I here This declaration is directed to:	by declare that:		
☑ The attached application, or	•		
☐ United States application nu	ımber	filed on	, or
☐ PCT international applicatio	n number	filed 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 claimed invent	ion in the
I hereby acknowledge that any willfu under18 U.S.C. 1001 by fine or impr	I false statement made in th isonment of not more than f	is declaration is punisive (5) years, or both.	shable
In consideration of the payment by	UNITED MICROELECT	FRONICS having	a postal address of
No.3, Li-Hsin Road 2, Science	-Based Industrial Park	, Hsin-Chu City 3	00, Taiwan, R.O.C
(referred to as "ASSIGNEE"below) to acknowledged, and for other good ar	o I of the sum of One Dollar ad valuable consideration.	(\$ 1.00), the receipt of	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 substitutes, or extensions thereof, ar	nd to any and all improveme tion and, in and to, all Lette r any continuations, continua	ents which are disclos rs Patent to be obtain ation-in-part, divisions	sed in the led for said s. renewals.
I hereby covenant that no assignment entered into which would conflict with	nt, sale, agreement or encur n this assignment;	nbrance has been or	will be 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 Paten estify as to the same in any i	t and legal equivalent nterference, litigation	s as mav be
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 carr	said Letters Patent ar y out the proposes th	nd said ereof.
Note: An application data sheet (PTC	D/SB/14 or equivalent), inclu	uding naming the enti	re

Page 9 of 14

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

NPO#NAU-P3503-USA:0 CUST#UMCD-2019-0334

LEGAL NAME OF INVENTOR(ASSIGNOR)

Inventor: Si-Han Tsal Date: SEP 2 5 2019

signature: Si Han Tsai

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NPO#NAU-P3503-USA:0 CUST#UMCD-2019-0334

Title of Invention:

MAGNETORESISTIVE RANDOM ACCESS MEMORY

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 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 MICROELECTRON CORP.	NICS having a postal add	dress of			
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(referred to as "ASSIGNEE"below) to acknowledged, and for other good an	o I of the sum of One Dollar (\$ 1.0 nd valuable consideration.	00), the receipt of which is he	ereby			
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representatives any and all papers, i maintain, issue and enforce said app equivalents thereof which may be ne IN WITNESS WHEREOF, I have her	Dication, said invention and said Lecessary or desirable to carry out	etters Patent and said the proposes thereof.				
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Page 11 of 14

NPO#NAU-P3503-USA:0 CUST#UMCD-2019-0334

LEGAL NAME OF INVENTOR(ASSIGNOR)							
Inventor:	Che-Wei Chang	Date:	SEP 2 5 2019				
Signature:	Che-Wei Chang						

Page 12 of 14

NPO#NAU-P3503-USA:0 CUST#UMCD-2019-0334 F#NPO-P0002E-US1201 DSB0-108U023152

PATENT REEL: 050571 FRAME: 0342

Title of Invention:

MAGNETORESISTIVE RANDOM ACCESS MEMORY

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 application number		filed on	_		
The above-identified application was	made or authorized to be made l	by me.			
I believe that I am the original invent application.	or or an original joint inventor of a	claimed invention in the			
I hereby acknowledge that any willfu under18 U.S.C. 1001 by fine or impr	I false statement made in this decisionment of not more than five (5)	laration is punishable) years, or both.			
In consideration of the payment by	UNITED MICROELECTRON CORP.	NICS having a postal add	dress of		
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(referred to as "ASSIGNEE"below) to acknowledged, and for other good an	o I of the sum of One Dollar (\$ 1.0 and valuable consideration.	0), the receipt of which is he	ereby		
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I hereby covenant that no assignment entered into which would conflict with	nt, sale, agreement or encumbran n this assignment;	ce has been or will be made	e or		
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					
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LEGAL NAME OF INVENTOR(ASSIGNOR)

Inventor:

Jing-Yin Jhang

Date:

SEP 2 5 2019

Page 14 of 14

F#NPO-P0002E-US1201 DSB0-108U023152

PATENT

REEL: 050571 FRAME: 0344

RECORDED: 09/30/2019

NPO#NAU-P3503-USA:0

CUST#UMCD-2019-0334