PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4832355

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
TARUN NAKRA	02/15/2018
HAO WANG	02/19/2018
PAUL KITCHIN	02/16/2018

RECEIVING PARTY DATA

Name:	SAMSUNG ELECTRONICS CO., LTD.
Street Address:	129, SAMSUNG-RO, YEONGTONG-GU
City:	SUWON-SI, GYEONGGI-DO
State/Country:	KOREA, REPUBLIC OF
Postal Code:	16677

PROPERTY NUMBERS Total: 1

Property Type	Number	
Application Number:	15900789	

CORRESPONDENCE DATA

Fax Number:

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: 503-419-6425

Email: pto@renaissanceiplaw.com

Correspondent Name: RENAISSANCE IP LAW GROUP LLP (SSI)

Address Line 1: 9600 SW OAK STREET

Address Line 2: SUITE 560

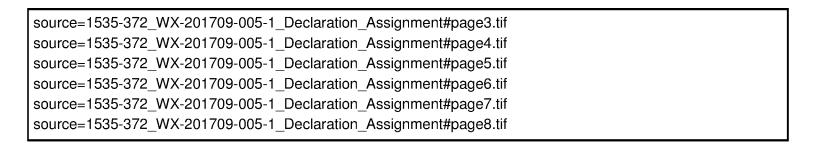
Address Line 4: PORTLAND, OREGON 97223

ATTORNEY DOCKET NUMBER:	1535-372
NAME OF SUBMITTER:	HOSOON LEE
SIGNATURE:	/Hosoon Lee/
DATE SIGNED:	02/20/2018
	This document serves as an Oath/Declaration (37 CFR 1.63).

Total Attachments: 8

source=1535-372_WX-201709-005-1_Declaration_Assignment#page1.tif source=1535-372_WX-201709-005-1_Declaration_Assignment#page2.tif

PATENT 504785623 REEL: 044983 FRAME: 0120



COMBINED DECLARATION (37 CFR §1.63) FOR UTILITY OR DESIGN PATENT APPLICATION AND ASSIGNMENT FORM¹

The undersigned acknowledges that this document is being used both as an assignment of the invention and as the declaration (37 CFR 1.63) for a Utility or Design Application.

WHEREAS, the undersigned, hereinafter referred to collectively as Assignor, has invented:

Title:	METI	HOD TO AVOID CACHE ACCESS C	ONFLICT BETWEEN LOAD	O AND FILL
for whi		ignor is about to make or has ma	ide United States or Inter	national application for
WHERE	EAS, as	a below named inventor(s), I/(w	e) hereby declare that:	
Section	ıl. De	claration		
This de	clarati	on is directed to:		
	\boxtimes	The attached U.S. non-provision	nal patent application, o	r
		U.S. non-provisional patent app	olication number	, filed on
		PCT international patent applic	ation number	, filed on
The ab	ove-ide	entified application was made or	authorized to be made b	y me (us).
, ,		that I am (we are) the original in he above-identified application.	nventor (original joint inve	entors) of a claimed
	,	acknowledge that any willful fal nder 18 U.S.C. 1001 by fine or im		
1 This fo	orm regi	uires the use of an Application Data Sh	eet.	
SEC Ref	No.	WX-201709-005-1	Attorney Ref No.	1535-372
СОМЕ	SINED E	DECLARATION (37 CFR 1.63) FOR UT	ILITY PATENT APPLICATION	AND ASSIGNMENT FORM

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I hereby state that I have reviewed and understand the contents of the above identified application, including the claims.

I acknowledge that I am aware of the duty to disclose information which is material to patentability as defined in 37 CFR § 1.56.

Section II. Assignment

In consideration of and according to the provisions of the Assignor's employment agreement(s), the undersigned hereby sell(s) and assign(s) to

Samsung Electronics Co., Ltd.

having an address at 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do 16677, Republic of Korea (hereinafter designated as the Assignee), the entire (100%) right, title and interest for the United States as defined in 35 USC §100, in the invention or design described in the application identified in Section I of this document.

Assignor hereby confirms any prior assignment to Assignee, and to the extent that Assignor has not already done so, agrees to assign, and hereby does, sell, assign and transfer unto Assignee and its successors in interest, the full and exclusive right, title and interest in the United States of America and throughout the world, including the right to claim priority under the laws of the United States, the Paris Convention, and any foreign countries, to the inventions or designs as described in the aforesaid application, to the aforesaid application itself, and to provisional application(s) Serial No. 62/582,279, filed November 6, 2017, to which the aforesaid application claims priority, and to all divisions, continuations, continuations-in-part, or other applications claiming priority directly or indirectly from the aforesaid application or provisional, and any United States or foreign Letters Patent, utility model, or other similar rights which may be granted thereon, including reissues, reexaminations and extensions thereof, and all copyright rights throughout the world in the aforesaid application and the subject matter disclosed therein, these rights, title and interest to be held and enjoyed by Assignee to the full end of the term for which the Letters Patent, utility model, or other similar rights, are granted and any extensions thereof as fully and entirely as the same would have been held by Assignor had this assignment and sale not been made, and the right to sue for, and recover for past infringements of, or liabilities for, any of the rights relating to any of the applications, patents, utility models, or other similar rights, resulting therefrom, and the copyright rights;

SEC Ref No.	WX-201709-005-1	Attorney Ref No.	1535-372
	/		

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Assignor hereby covenants and agrees to execute all instruments or documents required or requested for the making and prosecution of any applications of any type for patent, utility model, or other similar rights, and for copyright, in the United States and in all foreign countries including, but not limited to, any provisional, continuation, continuation-in-part, divisional, renewal or substitute thereof, and as to letters patent any reissue, re-examination, or extension thereof, and for litigation regarding, or for the purpose of protecting title and to the said invention, the United States application for patent, or Letters Patent therefor, and to testify in support thereof, for the benefit of Assignee without further or other compensation than that above set forth;

Assignor hereby covenants that no assignment, sale, license, agreement or encumbrance has been or will be entered into which would conflict with this Assignment; and

Assignor hereby requests the United States Patent and Trademark Office to issue the Letters Patent of the United States of America to Assignee, and requests that any official of any country or countries foreign to the United States, whose duty it is to issue or grant patents and applications as aforesaid, to issue the Letters Patent, Utility Model Registration or other similar right to Assignee.

The undersigned hereby grant(s) the law firm of Renaissance IP Law Group LLP the power to insert on this Declaration and Assignment any further identification which may be necessary or desirable in order to comply with the rules of the U.S. Patent and Trademark Office for recordation of this document.

Section III. Inventor(s)/Assignor(s) Signature(s)

LEGAL NAME OF	Family Name	First Given Name	Second Given Name
FIRST INVENTOR/ASSIGNOR	NAKRA	Tarun	
SIGNATURE _	Lale	DATE —	02/15/18
SEC Ref No. WX-	201709-005-1	Attorney Ref No.	1535-372

SIGNATU	re 12,1° 124	DATE	02/16/18
THIRD NVENTOR/ASSIGNO	OR KITCHIN	Paul	
LEGAL NAME OF	Family Name	First Given Name	Second Given Name
SIGNATÚ	RE	DATE	
NVENTOR/ASSIGNO	OR WANG	Hao	
SECOND	Family Name	First Given Name	Second Given Name

COMBINED DECLARATION (37 CFR 1.63) FOR UTILITY PATENT APPLICATION AND ASSIGNMENT FORM
Page 4 of 4

PATENT

COMBINED DECLARATION (37 CFR §1.63) FOR UTILITY OR DESIGN PATENT APPLICATION AND ASSIGNMENT FORM¹

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WHEREAS, the undersigned, hereinafter referred to collectively as Assignor, has invented:

Title: M	ETHOD TO AVOID CACHE ACCESS CO	ONFLICT BETWEEN LOA	D AND FILL
for which /	Assignor is about to make or has mad	de United States or Inte	rnational application for
WHEREAS,	as a below named inventor(s), I/(we) hereby declare that:	
Section I.	Declaration		
This declar	ration is directed to:		
\boxtimes	The attached U.S. non-provision	nal patent application, o	or
	U.S. non-provisional patent appl	ication number	, filed on
	PCT international patent applica	tion number	, filed on
The above	-identified application was made or a	authorized to be made	by me (us).
	eve that I am (we are) the original invented in the above-identified application.	entor (original joint inv	ventors) of a claimed
	eby acknowledge that any willful false under 18 U.S.C. 1001 by fine or imp		
¹ This form	requires the use of an Application Data Shee	et.	
SEC Ref No	. WX-201709-005-1	Attorney Ref No.	1535-372
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I acknowledge that I am aware of the duty to disclose information which is material to patentability as defined in 37 CFR § 1.56.

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Samsung Electronics Co., Ltd.

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Assignor hereby confirms any prior assignment to Assignee, and to the extent that Assignor has not already done so, agrees to assign, and hereby does, sell, assign and transfer unto Assignee and its successors in interest, the full and exclusive right, title and interest in the United States of America and throughout the world, including the right to claim priority under the laws of the United States, the Paris Convention, and any foreign countries, to the inventions or designs as described in the aforesaid application, to the aforesaid application itself, and to provisional application(s) Serial No. 62/582,279, filed November 6, 2017, to which the aforesaid application claims priority, and to all divisions, continuations, continuations-in-part, or other applications claiming priority directly or indirectly from the aforesaid application or provisional, and any United States or foreign Letters Patent, utility model, or other similar rights which may be granted thereon, including reissues, reexaminations and extensions thereof, and all copyright rights throughout the world in the aforesaid application and the subject matter disclosed therein, these rights, title and interest to be held and enjoyed by Assignee to the full end of the term for which the Letters Patent, utility model, or other similar rights, are granted and any extensions thereof as fully and entirely as the same would have been held by Assignor had this assignment and sale not been made, and the right to sue for, and recover for past infringements of, or liabilities for, any of the rights relating to any of the applications, patents, utility models, or other similar rights, resulting therefrom, and the copyright rights;

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Assignor hereby covenants and agrees to execute all instruments or documents required or requested for the making and prosecution of any applications of any type for patent, utility model, or other similar rights, and for copyright, in the United States and in all foreign countries including, but not limited to, any provisional, continuation, continuation-in-part, divisional, renewal or substitute thereof, and as to letters patent any reissue, re-examination, or extension thereof, and for litigation regarding, or for the purpose of protecting title and to the said invention, the United States application for patent, or Letters Patent therefor, and to testify in support thereof, for the benefit of Assignee without further or other compensation than that above set forth;

Assignor hereby covenants that no assignment, sale, license, agreement or encumbrance has been or will be entered into which would conflict with this Assignment; and

Assignor hereby requests the United States Patent and Trademark Office to issue the Letters Patent of the United States of America to Assignee, and requests that any official of any country or countries foreign to the United States, whose duty it is to issue or grant patents and applications as aforesaid, to issue the Letters Patent, Utility Model Registration or other similar right to Assignee.

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Section III. Inventor(s)/Assignor(s) Signature(s)

LEGAL NAME OF FIRST	Family Name	First Given Name	Second Given Name	
NVENTOR/ASSIGNOR	NAKRA	Tarun		
CONTRACTOR		DATE		
SIGNATURE				

LEGAL NAME OF SECOND INVENTOR/ASSIGNOR	Family Name	First Given Name	Second Given Name
	WANG	Hao	
SIGNATURE	Hanly	DATE	2/19/2018

LEGAL NAME OF THIRD INVENTOR/ASSIGNOR	Family Name	First Given Name	Second Given Name
	KITCHIN	Paul	
SIGNATURE		DATE	

SEC Ref No.	WX-201709-005-1	Attorney Ref No.	1535-377
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RECORDED: 02/20/2018