503594840 12/03/2015 PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT3641470

SUBMISSION TYPE:		NEW ASSIGNMENT			
NATURE OF CONVEYA	NCE:	ASSIGNMENT			
CONVEYING PARTY D	ΑΤΑ				
		Name		Executi	on Date
HWANG HO CHOI				08/21/201	15
DUHO KIM				09/30/20	15
JAEHYUN PARK				08/21/20-	15
CHANG-KYUNG SEON	G			08/21/20	15
RECEIVING PARTY DA	TA				
Name:	SAMSU	NG ELECTRONICS CO., L1	D.		
Street Address:		MSUNG-RO, YEONGTONG		NGGI-DO	
City:	SUWON	· · · · · · · · · · · · · · · · · · ·			
State/Country:	KOREA	, REPUBLIC OF			
Postal Code:	16677	· ·			
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Property Type		Number			
		Number 14957969			
Property Type Application Number:					
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Property Type Application Number: CORRESPONDENCE D Fax Number: <i>Correspondence will be</i>	PATA e sent to provided	202)293-7860			sent
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COMBINED DECLARATION (37 CFR §1.63) FOR UTILITY 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: INTEGRATED CIRCUIT HAVING EYE OPENING MONITOR AND SERIALIZER/DESERIALIZER DEVICE

for which Assignor is about to make or has made United States or International application for patent.

WHEREAS, as a below named inventor(s), I/(we) hereby declare that:

Section I. Declaration

This declaration is directed to:

The attached U.S. non-provisional patent application, or



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U.S. non-provisional patent application number ______, filed on ______, or



PCT international patent application number ______, filed on

The above-identified application was made or authorized to be made by me (us).

I (we) believe that I am (we are) the original inventor (original joint inventors) of a claimed invention in the above-identified application.

I (we) hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

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SEC Ref No.	IB-201410-030-1-US0	Attorney Ref No.	Q220598
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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 the sum of One Dollar (\$1.00) and other good and valuable consideration paid to each of the undersigned, 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 443-742, 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 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 as described in the aforesaid application, to the aforesaid application itself, and all divisions, continuations, continuations-in-part, or other applications claiming priority directly or indirectly from the aforesaid application, 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;

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-

SEC Ref No.	IB-201410-030-1-US0	Attorney Ref No	Q220598	
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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 **SUGHRUE MION PLLC** 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 FIRST	Family Name	First Given Name	Second Given Name
INVENTOR/ASSIGNOR	CHOI	Hwang Ho	
SIGNATURE		DATE	

SEC Ref No.	IB-201410-030-1-US0	Attorney Ref No.	Q220598	
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LEGAL NAME OF SECOND	Family Name	First Given Name	Second Given Name
INVENTOR/ASSIGNOR	KIM	Duho	
SIGNATURE	Þuho Ki	bate M	2015-9-30

LEGAL NAME OF THIRD	Family Name	First Given Name	Second Given Name
INVENTOR/ASSIGNOR	PARK	JaeHyun	
SIGNATURE		DATE	

LEGAL NAME OF FOURTH	Family Name	First Given Name	Second Given Name
INVENTOR/ASSIGNOR	SEONG	Chang-Kyung	
SIGNATURE		DATE	

SEC Ref No	IB-201410-030-1-US0	Attorney Ref No	Q220598
COMBINED DEC	LARATION (37 CFR 1.63) FOR UTI Pag	LITY PATENT APPLICATION A e 4 of 4	ND ASSIGNMENT FORM
			PATENT

COMBINED DECLARATION (37 CFR §1.63) FOR UTILITY 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:

TRIE INTEGRATED CIRCUIT HAVING EYE OPENING MONITOP AND SERIALIZER/DESERIALIZER DEVICE

for which Assignor is about to make or has made United States or International application . for patent.

WHEREAS, as a below named inventor(s), 1/(we) hereby declare that:

Section I. Declaration

This declaration is directed to:

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The above identified application was made or authorized to be made by me (us).

(we) believe that i am (we are) the original inventor (original joint inventors) of a claimed invention in the above-identified application.

I (we) hereby acknowledge that any willful failse statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

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COMBINED DECLARATION	(1) (1) (1) (1) (1) (1) (1)	PATENT APPLICATION AND	ASSIGNMENT FORM

PATENT REEL: 037201 FRAME: 0101

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

Reconverge 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 the sum of One Dollar (\$1.00) and other good and valuable consideration paid to each of the undersigned, the undersigned hereby selfs) and assign(s) to

Samsung Electronics Co., Ltd.

having an address at 129, Samsung ro, Yeongtong gu, Suwon-s, Gyeongg-do 443,742. 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 described in the application dentified in Section 1 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 as described in the abresaid application, to the aforesaid application itself, and all divisions, continuations, continuations-in-part, or other applications claiming priority directly or indirectly from the aforesaid application, and any United States or foreign Letters Patent, utility model, or other smilar rights which may be granted thereon, including reliables, 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.

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 formits 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-

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examination, or extension thereof, and for interation 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 usue the Letters Patent, Utility Model Registration or other Similar right to Assignee.

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

Family Name First Given Name Second Given LEGAL NAME OF Nome FIRST INVENTOR/ASSIGNOR CHOI Hwang Ho DATE MONATURE HELEN Any 21 roll SEC 8e/ No. 18-201410-030-1-050 Attorney Ref No. Q220598 COMBINED DECLARATION (37 CFR 1.63) FOR UTILITY PATENT APPLICATION AND ASSIGNMENT FORM 000.000.000.000

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

PATENT REEL: 037201 FRAME: 0103

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LEGAL NAME OF	Family Name	First Given Name	Second Given Name
INVENTOR/ASSISTOR	KIM	Duho	
COCM A THORE		OATE	

SIGNATURE

IFTAL NAME OF Family Name First Given Name Second Given Name THIRD PARK NVENION/ACCONOR JaeHyum

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**RECORDED: 12/03/2015**