PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
HYO-SOON KANG	02/04/2015
SUN-WON KANG	02/04/2015
JOON-YOUNG PARK	03/19/2015
DOO-HEE HWANG	02/23/2015
TAE-YOUNG YOON	02/04/2015

RECEIVING PARTY DATA

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State/Country:	KOREA, REPUBLIC OF
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PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	14698826

CORRESPONDENCE DATA

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Correspondent Name: RENAISSANCE IP LAW GROUP LLP (PORTLAND I

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ATTORNEY DOCKET NUMBER:	8421-162
NAME OF SUBMITTER:	HOSOON LEE
SIGNATURE:	/Hosoon Lee/
DATE SIGNED:	04/28/2015
	This document serves as an Oath/Declaration (37 CFR 1.63).
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Total Attachments: 4

PATENT REEL: 035520 FRAME: 0570

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PATENT REEL: 035520 FRAME: 0571

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:		
	PRINTED CIRCUIT BOARD HAVING TRACES AND BALL GRID ARRAY PACKAGE INCLUDING THE SAME	
for which A	reignorie about to make or has pende this different to the second of the	
for patent.	Assignor is about to make or has made United States or International application	
WHEREAS,	as a below named inventor(s), I/(we) hereby declare that:	
Section I. (Declaration The Control of the Contr	
This declara	ation is directed to:	
\boxtimes	The attached U.S. DSU23, ZateApplication, or	
	U.S. non-provisional patent application number	
	U.S. non-provisional patent application number, filed on, or	
	PCT international patent application number, filed on	
The above-i	identified application was made or authorized to be made by me (us).	
l (we) believ invention in	ve that I am (we are) the original inventor (original joint inventors) of a claimed the above-identified application.	
I (we) hereb punishable both.	by acknowledge that any willful false statement made in this declaration is under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or	
l hereby sta	te that I have reviewed and understand the contents of the above identified	
application,	including the claims.	
This form re	equires the use of an Application Data Sheet.	
SEC Ref No.	IE-201312-038-1-USO Attorney Ref No. 8421-162	

COMBINED DECLARATION (37 CFR 1.63) FOR UTILITY PATENT APPLICATION AND ASSIGNMENT FORM 강효순09023794반도체사업부|Package개발팀(반도체면)1252184561 25450204094817

REEL: 035520 FRAME: 0572

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 aformatic application to the aformation and all divisions, continuations, continuations, continuations are 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-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;

SEC Ref No.	IE-201312-038-1-US0	Attorney Ref No.	8421-162

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

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 FIRST	Family Name	First Given Name	Second Given Name	
INVENTOR/ASSIGNOR	KANG	Hyo-soon		
09023794				
SIGNATURE Hyo-Soon Kang DATE 04 Feb. 2015				
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LEGAL NAME OF SECOND	Family Name	First Given Name	Second Given Name
INVENTOR/ASSIGNOR	KANG	Sun-won	
SIGNATURE (Junuan Kang	DATE	X. Feb. 2015

SEC Ref No.	IE-201312-038-1-US0	Attorney Ref No.	8421-162

LEGAL NAME OF THIRD	Family Name	First Given Name	Second Given Name
INVENTOR/ASSIGNOR	PARK	Joon-young	
SIGNATURE	Sam-	DATE	3/19/2015
	ANDARA		

LEGAL NAME OF FOURTH	Family Name	First Given Name	Second Given Name
INVENTOR/ASSIGNOR	HWANG	Doo-hee	
SIGNATURE	xine	DATE	2015.2.23
Careford Control of Co			

LEGAL NAME OF FIFTH		Find then Name	Second Given Name		
INVENTOR/ASSIGNOR	YOON	Tae-young			
	M. m.	DATE			
SIGNATURE _			2015.02.04		

SEC Ref No.	IE-201312-038-1-US0	Attorney Ref No.	CO. LOCKE WITHOUT