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11-1-09 RECORDATION FO	0RM COVER SI. 103581036		
	er of Patents and Trademarks: inal documents or copy thereof.		
1. Name of conveying party(ies):	2. Name and address of receiving party(ies)		
Jin-Hak KIM	Name: Samsung Electronics Co., Ltd.		
Tae-Chan KIM	Street Address: 416, Maetan-dong, Yeongtong-gu		
Bum-Suk KIM			
Jung-Hoon JUNG	City: Suwon-si State: Gyeonggi-do		
Tae-Sub JUNG	Country: Republic of Korea		
Additional name(s) of conveying party(ies) attached?	Additional name(s) & address(es) attached? 🗌 YES 🔀 N		
3. Nature of conveyance:			
🛛 Assignment 🔲 Merger 🔲 Security Agreement			
Change of Name Other:			
Execution Date: November 3, 2009; November 4, 2009; November 4, 2009; November 4, 2009; November 4, 2009	12591074		
4. Application number(s) or patent number(s): If this document is being filed together with a new application, the execution date of the application is: November 3, 2009; November 4, 2009; November 4, 2009; November 4, 2009; November 4, 2009			
A. Patent Application No(s).	B. Patent No.(s).		
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Additional numbers attac	hed? TYES X NO		
5. Name and address of party to whom correspondence	6. Total No. of applications/patents involved: One (1)		
concerning document should be mailed:	7. Total fee (37 C.F.R. § 3.41): \$40.00		
Name: HARNESS, DICKEY & PIERCE, P.L.C.	I Enclosed		
Street Address: P.O. BOX 8910	Authorized to be charged to deposit account,		
City: RESTON State: VA ZIP: 20195	if no fee attached.		
Country: USA	8. Deposit account number: 08-0750		
	(Attach triplicate copy of this page		
	if paying by deposit account)		
DO NOT USE	THIS SPACE		
9. Statement and signature.	$\gamma \setminus \gamma$		
To the best of my knowledge and belief, the foregoing in copy of the original document.	formation is true and correct and any attached copy is a true		
John A. Castellano, Reg. No. 35,094	November 6, 2009		
Name of Person Signing/Reg. No.	Signature Date		
Total number of pages including cove	r sheet, attachments, and document: 3		
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PATENT REEL: 023534 FRAME: 0683

## ASSIGNMENT

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

## COLOR FILTER ARRAY, IMAGE SENSOR INCLUDING THE COLOR FILTER ARRAY AND SYSTEM INCLUDING THE IMAGE SENSOR

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

- (a) A executed on even date preparatory to filing (each inventor should sign this Assignment on the same day as he/she signs the Declaration and Power of Attorney);
- (b) a executed on \_\_\_\_\_; or

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(c) [\_\_\_\_\_\_\_ filed on \_\_\_\_\_\_, and assigned Serial No. \_\_\_\_\_\_ or PCT International Application No. \_\_\_\_\_\_; and

WHEREAS, Samsung Electronics Co., Ltd., 416, Maetan-dong, Yeongtong-gu, Suwon-si, Gyeonggi-do, Republic of Korea, hereinafter referred to as Assignee, is desirous of acquiring all right, title, and interest therein:

NOW, THEREFORE, for good and valuable consideration, the raceipt and adequacy whereof is hereby acknowledged, Assignor agrees to, 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 Parls Convention, and any foreign countries, to the invention as described in the aforesaid application and all United States Letters Patent which may be granted therefore, and all divisions, continuations, reissues, reaxaminations and extensions thereof, these rights, title and interest to be held and enjoyed by Assignee to the full end of the term for which the Letters Patent 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 or patents resulting therefrom;

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 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 Inventor's Certificate to Assignee.

The undersigned hereby grant(s) the law firm of Hameas, Dickey & Pierce, P.L.C. the power to insert on this 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.

PATENT REEL: 023534 FRAME: 0684

Atty. Dkt. No. 9882-000405/US

ASSIGNMEN	T
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Jin-Hak KIN

2009-11-3

Dated

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Tachan Kir Tac-Chan KIM

2009-11-4

Dated

Kinn Burn Suk

Bum-Suk KIM

Nov. 4. 2009

Dated

Jung-Hoon' JUNG

2009-11-4

Dated

Tae-Sub JUNG

7009-11-4

Dated

PATENT REEL: 023534 FRAME: 0685

**RECORDED: 11/06/2009**