PATENT ASSIGNMENT

Electronic Version v1.1 Stylesheet Version v1.1

SUBMISSION TYPE: NEW ASSIGNMENT

NATURE OF CONVEYANCE: ASSIGNMENT

CONVEYING PARTY DATA

| Name | Execution Date |
|--------------|----------------|
| Guk Hyun KIM | 10/27/2009 |
| Won-Ki HONG | 10/27/2009 |

RECEIVING PARTY DATA

| Name: | SAMSUNG ELECTRONICS CO., LTD. | | |
|-------------------|--------------------------------|--|--|
| Street Address: | 416, Maetan-dong, Yeongtong-gu | | |
| Internal Address: | Suwon-Si | | |
| City: | Gyeonggi-do | | |
| State/Country: | REPUBLIC OF KOREA | | |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 12620398 |

CORRESPONDENCE DATA

Fax Number: (408)725-8263

Correspondence will be sent via US Mail when the fax attempt is unsuccessful.

Phone: 408 331 1670

Email: rorlando@innovationcounsel.com

Correspondent Name: Innovation Counsel LLP
Address Line 1: 21771 Stevens Creek Blvd

Address Line 2: Ste. 200

Address Line 4: Cupertino, CALIFORNIA 95014

ATTORNEY DOCKET NUMBER: PANK03372 US

NAME OF SUBMITTER: Kieun Jenny Sung

Total Attachments: 1

source=PANK03372US_ASG_EF#page1.tif

CH \$40.00

PATENT REEL: 023531 FRAME: 0560

Attorney Docket No.:

ASSIGNMENT

For good and valuable consideration, receipt of which is hereby acknowledged, we

| KII | M, Guk Hyun | of | A220, Samsung Advanced Institute of Technology, Nongseo-dong, Giheung-gu, Yongin-si, Gyeonggi-do, Korea |
|-----|-------------|----|---|
| HO | NG, Won-Ki | of | C210, Samsung Advanced Institute of Technology, Nongseo-dong, Giheung-gu, Yongin-si, Gyeonggi-do, Korea |

hereby sell, assign and transfer to Samsung Electronics Co., Ltd. a corporation, having a place of business at 416, Maetan-dong, Yeongtong-gu, Suwon-si, Gyeonggi-do, Republic of Korea, its successors and assigns, the entire right, title and interest throughout the world in our invention in

SHUTTER PIXEL, SHUTTER STRUCTURE INCLUDING THE SHUTTER PIXEL, AND EXPOSURE APPARATUS INCLUDING THE SHUTTER STRUCTURE

for which we have executed a United States patent application on or about the date of this assignment, and all patent applications and patents of every country for said invention, including divisions, reissues, continuations and extensions thereof, and all rights of priority resulting from the filing of said applications; we authorize the above-named assignee to apply for patents of foreign countries for said invention, and to claim all rights of priority without further authorization from us; we agree to execute all papers useful in connection with said United States and foreign applications, and generally to do everything possible to aid said assignee, its successors, assigns and nominees, at their request and expense, in obtaining and enforcing patents for said invention in all countries; and we request that the United States Patent and Trademark Office issue all patents granted for said invention to the above-named assignee, its successors and assigns.

Executed this 27 day of October, 2009.

KIM, Guk Hyun

Executed this 27 day of October 2009.

HONG, Won-Ki

- Page 1 of 1 -

OPP20083064US

RECORDED: 11/17/2009

PATENT REEL: 023531 FRAME: 0561