501870598 03/29/2012

PATENT ASSIGNMENT

Electronic Version v1.1 Stylesheet Version v1.1

| SUBMISSION TYPE: | NEW ASSIGNMENT |
|-----------------------|----------------|
| NATURE OF CONVEYANCE: | ASSIGNMENT |

CONVEYING PARTY DATA

| Name | Execution Date |
|---------------|----------------|
| Tae-eung Yoon | 03/16/2012 |

RECEIVING PARTY DATA

| Name: | Samsung Electronics Co., Ltd. |
|-----------------|--------------------------------|
| Street Address: | 416, Maetan-dong, Yeongtong-gu |
| City: | Suwon-Si, Gyeonggi-do |
| State/Country: | KOREA, REPUBLIC OF |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 13433448 |

CORRESPONDENCE DATA

 Fax Number:
 (516)692-8889

 Phone:
 516-692-8888

 Email:
 mail@chauiplaw.com

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent

via US Mail.

Correspondent Name: F. CHAU & ASSOCIATES, LLC
Address Line 1: 130 WOODBURY ROAD

Address Line 4: WOODBURY, NEW YORK 11797

| ATTORNEY DOCKET NUMBER: | 8021-638/FC |
|-------------------------|-------------|
| NAME OF SUBMITTER: | Frank Chau |

Total Attachments: 2

source=8021-638-assignment-pto#page1.tif source=8021-638-assignment-pto#page2.tif

OP \$40.00 13

PATENT REEL: 027952 FRAME: 0381

DOCKET NO.: 8021-638 (SS-38523-US)

ASSIGNMENT

AS A BELOW NAMED INVENTOR, I, and each of us, individually hereby declare that: IN CONSIDERATION of the sum of TEN (\$10.00) dollars or the equivalent thereof, and other good and valuable consideration, the receipt of which from the hereinafter named Assignee is hereby acknowledged, I do hereby sell, assign and forever grant and convey unto:

ASSIGNEE: Samsung Electronics Co., Ltd.

ADDRESS: 416, Maetan-dong, Yeongtong-gu, Suwon-si, Gyeonggi-do, KOREA

Who is my Assignee, and to the successes and assigns of my Assignee, all my right, title and interest, in and for the United States of America and all other countries, including all rights of priority, in and to the invention entitled:

TITLE: A PHASE-CHANGE MEMORY DEVICE INCLUDING A VERTICALLY-STACKED CAPACITOR AND A METHOD OF THE SAME

invented by me (if only one inventor is named below) or us (if more than one inventor is named below) and described in an application for a United States patent the specification of which is either attached hereto or otherwise accompanies this Assignment or indicates an attorney docket no. 8021-638 (SS-38523-US), or is more particularly identified as:

| <u>.</u> |
|----------|
| |
| |
| and to |
| nd re- |
| of the |
| LTD., |
| term, |
| ed, as |
| ment, |
| |
| |

AND I hereby covenant and agree to sign and execute any further documents or instruments which may from time-to-time be either necessary, lawful, proper or requested by the Assignee, in the prosecution of the above-named application or in the preparation and prosecution of any certificate of correction, division, continuation, continuation-in-part, reissue, re-examination, in any amendment, extension, or interference proceeding, whether administrative or judicial, or otherwise, to secure the title hereto in said Assignee;

Page 1 of 2

1592401331856859

AND I do hereby authorize and request the Commissioner of Patents and Trademarks to issue said Patent or Patents to the Assignee, and I hereby appoint as my, or our attorney, and authorize and request Frank Chau, Reg. No. 34,136, to insert on this Assignment any further identification or to complete such identification which may be either necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document.

IN WITNESS WHEREOF, I and we have set our hands and seals on the dates written beside my and our respective names:

INVENTOR(S)

Date Signed

2012.3.16

Tae-eung Yoon

Page 2 of 2

윤태용070370161254188143 20120316091419

1592401331856859

PATENT REEL: 027952 FRAME: 0383

RECORDED: 03/29/2012