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OMB No. 0651-0027 (exp. 6/30/2005)U.S. DEPARTMENT OF COMMERCE
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11/016246



To the Director of the U.S. Patent and Trademark Office: Please record the attached documents or the new address(es) below.

1. Name of conveying party(ies)/Execution Date(s):

CHO, Yeon-Ha

Execution Date(s) November 30, 2004Additional name(s) of conveying party(ies) attached? ☐ Yes ☐ No**2. Name and address of receiving party(ies)**Name: Samsung Electronics Co., Ltd.

Internal Address: _____

Street Address: 416, Maetan-dong, Yeongtong-guCity: Suwon-si, Gyeonggi-do

State: _____

Country: Republic of Korea Zip: _____Additional name(s) & address(es) attached? ☐ Yes ☒ No**3. Nature of conveyance:**

- ☒ Assignment ☐ Merger
☐ Security Agreement ☐ Change of Name
☐ Government Interest Assignment
☐ Executive Order 9424, Confirmatory License
☐ Other _____

4. Application or patent number(s):☐ This document is being filed together with a new application.

A. Patent Application No.(s)

NEW

B. Patent No.(s)

Additional numbers attached? ☐ Yes ☒ No**5. Name and address to whom correspondence concerning document should be mailed:**Name: VOLENTINE FRANCOS & WHITT, PLLC

Internal Address: _____

Street Address: ONE FREEDOM DRIVE11951 FREEDOM DRIVE SUITE 1260City: RESTONState: VA Zip: 20190Phone Number: 703.715.0870Fax Number: 703.715.0877Email Address: IPLAW@VOLENTINE.COM**6. Total number of applications and patents involved:**

1

7. Total fee (37 CFR 1.21(h) & 3.41) \$ 40.00

- ☐ Authorized to be charged by credit card
☐ Authorized to be charged to deposit account
☒ Enclosed
☐ None required (government interest not affecting title)

8. Payment Informationa. Credit Card Last 4 Numbers _____
Expiration Date _____b. Deposit Account Number 50-0238Authorized User Name Adam C. Volentine**9. Signature:**

Signature

December 20, 2004

Date

Adam C. Volentine

Name of Person Signing

Total number of pages including cover sheet, attachments, and documents:

3

Documents to be recorded (including cover sheet) should be faxed to (703) 306-5995, or mailed to:
Mail Stop Assignment Recordation Services, Director of the USPTO, P.O.Box 1450, Alexandria, V.A. 22313-1450

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PATENT
REEL: 016121 FRAME: 0243

ASSIGNMENT

In consideration of the sum of One Dollar (\$1.00) and other good and valuable consideration paid to each of the undersigned

Insert**Name(s) of
Inventor(s)**

- | | |
|-----------------------|----------|
| 1. <u>Yeon-Ha CHO</u> | 5. _____ |
| 2. _____ | 6. _____ |
| 3. _____ | 7. _____ |
| 4. _____ | 8. _____ |

Insert**Name(s) of
Assignee(s) &**

the undersigned hereby sell(s) and assign(s) to

Address(es)

SAMSUNG ELECTRONICS CO., LTD.
416, Maetan-dong, Yeongtong-gu, Suwon-si,
of Gyeonggi-do, Republic of Korea

(hereinafter designated as the Assignee) the entire right, title and interest for the United States as defined in 35 USC 100, in the invention known as

**Title of
Invention**

HIGH-ENERGY ION IMPLANTER AND METHOD OF OPERATION THEREOF

**Date of
Signing of
Application**

for which an application for patent in the United States of America has been executed by

the undersigned on November 30, 2004

The undersigned agree(s) to execute all papers necessary in connection with this application and any continuing, divisional or reissue applications thereof and also to execute separate assignments in connection with such applications as the Assignee may deem necessary or expedient.

The undersigned agree(s) to execute all papers necessary in connection with any interference which may be declared concerning this application or continuing, division or reissue thereof and to cooperate with the Assignee in every way possible in obtaining evidence and going forward with such interference.

The undersigned agree(s) to execute all papers and documents and perform any act which may be necessary in connection with claims or provisions of the International Convention for Protection of Industrial Property or similar agreements.

The undersigned agree(s) to perform all affirmative acts which may be necessary to obtain a grant of a valid United States patent to the Assignee.

The undersigned hereby authorize(s) and request(s) the Commissioner of Patents to issue any and all Letters Patents of the United States resulting from said application or any division or divisions or continuing or reissue applications thereof to the said Assignee, as Assignee of the entire interest, and hereby covenants that he has (they have) full right to convey the entire interest herein assigned, and that he has (they have) not executed, and will not execute, any agreement in conflict herewith.

The undersigned hereby grant(s) the practitioners associated with the **CUSTOMER NUMBER 20987** 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 United States Patent Office for recordation of this document.

In witness whereof, executed by the undersigned on the date(s) opposite the undersigned name(s).

Date 11/30/2004 Signature of Inventor YEON HA CHO
Yeon-Ha CHO

Date _____ Signature of Inventor _____

Date _____ Signature of Inventor _____

Date _____ Signature of Inventor _____

Date _____ Signature of Inventor _____

Date _____ Signature of Inventor _____

Date _____ Signature of Inventor _____

Date _____ Signature of Inventor _____

(Note regarding Witnessing: It is recommended that the execution by the Inventor(s) be witnessed by at least two witnesses who sign here. However, the current practice of the U.S. Patent and Trademark Office is to record an Assignment even it has not been witnessed.)

Witness _____

Witness _____

Applicant Reference No. S04US030 Attorney Docket No. SEC.1266