

PATENT APPLICATION
Docket No. 9898-317
Client Ref. No. SS-18715-US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

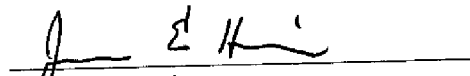
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Please record the attached original document or copy thereof and return the recorded instrument to the undersigned.

1. Name of party(ies) conveying an interest: (1) Woo-Seop KIM
2. Name and address of party(ies) receiving an interest: Samsung Electronics Co., Ltd.
416 Maetan-dong, Yeongtong-gu, Suwon-City
Kyungki-do, Republic of Korea
3. Description of the interest conveyed:
☒ Assignment ☐ Change of Name ☐ Security Agreement ☐ Merger
Date of execution of attached document: (1) April 12, 2004
4. Application number(s) or patent number(s). Additional sheet attached? Yes ___ No X
If this document is being filed together with a new application, the execution date of the application is:
December 29, 2003
A. Patent Application No. 10/748,748 B. Patent No.
5. Name and address of party to whom correspondence concerning document should be mailed:
MARGER JOHNSON & McCOLLOM, P.C.
1030 S.W. Morrison Street
Portland, Oregon 97205
Telephone: (503) 222-3613
6. Number of applications and patents involved: 1
7. PTO Form 2038 authorizing credit card payment (\$40) is enclosed.
8. Any deficiency or overpayment should be charged or credited to deposit account number 13-1703.
9. To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.

Dated: April 30, 2004

Respectfully submitted,
MARGER JOHNSON & McCOLLOM, P.C.


James E. Harris
Reg. No. 40,013

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Total number of pages comprising
cover sheet and attached instrument: 3

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Docket No. 9898-317
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ASSIGNMENT

U.S.A. Patent Application
Sole or Joint
For Inventions Made Outside U.S.A.
Executed With Application

In consideration of the sum of Ten Dollars (10.00) and other good and valuable considerations paid to each of the undersigned, to wit:

(1) **Woo-Seop KIM**

☐ X if continued on separate page

the receipt and sufficiency of which are hereby acknowledged by the undersigned who hereby sell(s), assign(s) and transfer(s) unto:

SAMSUNG ELECTRONICS CO., LTD.
416 MAETAN-DONG, YEONGTONG-GU
SUWON-SI, GYEONGGI-DO
REPUBLIC OF KOREA

(hereinafter designated "ASSIGNEE") the entire right, title and interest in and to the invention as defined in 35 USC §100, for the United States of America, the invention entitled:

SIMULTANEOUS BIDIRECTIONAL INPUT/OUTPUT CIRCUIT AND METHOD

for which an application for Letters Patent of the United States of America has been executed even date herewith by the undersigned, and in and to any and all divisionals, continuations, substitutes, and reissues thereof; and all resulting patents and the undersigned hereby authorizes and requests the United States Assistant Commissioner of Patents to issue said Letters Patent to the said ASSIGNEE, for its interest as ASSIGNEE, its successors, assigns and legal representatives; the undersigned agrees that the attorneys of record in said application shall hereafter act on behalf of said ASSIGNEE;

And the undersigned hereby agrees to testify and execute any papers for ASSIGNEE, its successors, assigns and legal representatives, deemed essential by ASSIGNEE to ASSIGNEE'S full protection and title in and to the invention hereby transferred.

Please sign
concurrently
with Oath or Declaration
and Power of Attorney

SIGNED ON THE DATES INDICATED BESIDE OUR SIGNATURES:

<u>INVENTOR(S)</u>	<u>DATE SIGNED</u>	<u>WITNESSED</u>
(1) <u>Woo-Seop KIM</u> Woo-Seop KIM	<u>April 12, 2004</u>	_____

PLEASE RETURN RECORDED ASSIGNMENT TO:

Alan T. McCollom
Marger Johnson & McCollom
1030 S.W. Morrison Street
Portland, OR 97205