Based on FCRM PTO-1595 (Rev. 08/05) as modified by Blakely, Sokoloff, Taylor & Zafm

03-20-2006

J.S. DEPARTMENT OF COMMERCE Patent and Trademark Office

| * OFFICE UP 17 M 9: 31 103201192 To the Directory of the U.S. Patent and Trademark Office: Please record the attached documents or the new address(es) below. | | | |
|---|--|--|--|
| 100201192 | • OFFICE OF PHOLIC PECORD | | |
| To the Directory of the U.S. Patent and Trademark Office: Please record the attached documents or the new address(es) below. | 100201192 | | |
| | To the Directory of the U.S. Patent and Trademark Office: Please record the attached documents or the new address(es) below. | | |
| Name of conveying party(ies): Name and address of receiving party(ies): | | | |
| Hyun Soon NAM; Eun Young CHO; BYUNG HO | | | |
| YAE Name: Electronics And Telecommunication | ns | | |
| Research_Institute | | | |
| (Additional name(s) of conveying party/ies) attached? Internal Address: | | | |
| Additional hame(s) of conveying party(les) attached: | | | |
| No ☐ Yes Street Address: 161 Gajeong-dong, Yuseong | -gu | | |
| 3. Nature of Conveyance: | i | | |
| ■ Assignment | | | |
| ☐ Security Agreement ☐ Change of Name City: Daejeon State: ZIP: Rep | ublic orea | | |
| Other Country: | 371.52 | | |
| Execution Date: 11/7/2005:11/7/2005: | | | |
| Additional name(s)& address(es) attached? ■ No □ Ye | s | | |
| 4. Application number(s) or patent number(s): This document is being filed together with a new application. | | | |
| A. Patent Application No.(s) B. Patent No.(s) | | | |
| 11/300189 | | | |
| Additional numbers attached? ☑ No ☐ Yes | | | |
| | | | |
| | | | |
| Name and address of party to whom correspondence concerning document should be mailed: Concerning document should be mailed: | : 1 | | |
| | : 1 | | |
| Concerning document should be mailed: Name: Blakely, Sokoloff, Taylor & Zafman LLP 7. Total Fee (37 CFR 3.41)\$ 40.00 | · · · · · · · · · · · · · · · · · · · | | |
| concerning document should be mailed: Name: Blakely, Sokoloff, Taylor & Zafman LLP 7. Total Fee (37 CFR 3.41)\$ 40.00 Internal Address: ☐ Authorized to be charged to deposit acco | · · · · · · · · · · · · · · · · · · · | | |
| concerning document should be mailed: Name: Blakely, Sokoloff, Taylor & Zafman LLP 7. Total Fee (37 CFR 3.41)\$ 40.00 Internal Address: □ Authorized to be charged to deposit acco | · · · · · · · · · · · · · · · · · · · | | |
| concerning document should be mailed: Name: Blakely, Sokoloff, Taylor & Zafman LLP 7. Total Fee (37 CFR 3.41)\$ 40.00 Internal Address: ☐ Authorized to be charged to deposit acco | · · · · · · · · · · · · · · · · · · · | | |
| Concerning document should be mailed: Name: Blakely, Sokoloff, Taylor & Zafman LLP 7. Total Fee (37 CFR 3.41)\$ 40.00 | unt | | |
| Concerning document should be mailed: Name: Blakely, Sokoloff, Taylor & Zafman LLP 7. Total Fee (37 CFR 3.41)\$ 40.00 | unt | | |
| Concerning document should be mailed: Name: Blakely, Sokoloff, Taylor & Zafman LLP 7. Total Fee (37 CFR 3.41)\$ 40.00 | unt | | |
| Concerning document should be mailed: Name: Blakely, Sokoloff, Taylor & Zafman LLP 7. Total Fee (37 CFR 3.41)\$ 40.00 | unt | | |
| Name: Blakely, Sokoloff, Taylor & Zafman LLP Internal Address: Street Address: City: Los Angeles State: CA ZIP: 90025 Phone Number: (310) 207-3800 Fax Number: (310) 820-5988 E-mail Address: eric_hyman@bstz.com 7. Total Fee (37 CFR 3.41)\$ 40.00 Enclosed Authorized to be charged to deposit acco 8. Deposit Account Number: 02-2666 (Attach duplicate copy of this page if paying by deposit acco | unt | | |
| Concerning document should be mailed: Name: Blakely, Sokoloff, Taylor & Zafman LLP 7. Total Fee (37 CFR 3.41)\$ 40.00 | unt ount) | | |
| Name: Blakely, Sokoloff, Taylor & Zafman LLP Internal Address: Street Address: City: Los Angeles State: CA ZIP: 90025 Phone Number: (310) 207-3800 Fax Number: (310) 820-5988 E-mail Address: eric_hyman@bstz.com PO NOT USE THIS SPACE 7. Total Fee (37 CFR 3.41)\$ 40.00 Enclosed Authorized to be charged to deposit accomposite accompo | unt | | |
| Name: Blakely, Sokoloff, Taylor & Zafman LLP Internal Address: Street Address: City: Los Angeles State: CA ZIP: 90025 Phone Number: (310) 207-3800 Fax Number: (310) 820-5988 E-mail Address: eric_hyman@bstz.com PO NOT USE THIS SPACE 7. Total Fee (37 CFR 3.41)\$ 40.00 Enclosed Authorized to be charged to deposit acco 8. Deposit Account Number: 02-2666 (Attach duplicate copy of this page if paying by deposit acco DO NOT USE THIS SPACE | ount) | | |
| Name: Blakely, Sokoloff, Taylor & Zafman LLP Internal Address: Street Address: City: Los Angeles State: CA ZIP: 90025 Phone Number: (310) 207-3800 Fax Number: (310) 820-5988 E-mail Address: eric_hyman@bstz.com PO NOT USE THIS SPACE 7. Total Fee (37 CFR 3.41)\$ 40.00 Enclosed Authorized to be charged to deposit accomposite accompo | ount) | | |
| Name: Blakely, Sokoloff, Taylor & Zafman LLP Internal Address: Street Address: 12400 Wilshire Boulevard 7th Floor City: Los Angeles State: CA ZIP: 90025 Phone Number: (310) 207-3800 Fax Number: (310) 820-5988 E-mail Address: eric_hyman@bstz.com To the best of my knowledge and belief, the foregoing is true and correct and any attached copy is a true copy of the original document. 7. Total Fee (37 CFR 3.41)\$ 40,00 Authorized to be charged to deposit accomposition of the | ount) | | |
| Name: Blakely, Sokoloff, Taylor & Zafman LLP Internal Address: Street Address: City: Los Angeles State: CA ZIP: 90025 Phone Number: (310) 207-3800 Fax Number: (310) 820-5988 E-mail Address: eric_hyman@bstz.com PO NOT USE THIS SPACE 7. Total Fee (37 CFR 3.41)\$ 40.00 Enclosed Authorized to be charged to deposit acco 8. Deposit Account Number: 02-2666 (Attach duplicate copy of this page if paying by deposit acco DO NOT USE THIS SPACE | ount) | | |

Documents to be recorded (including cover sheet) should be faxed to (571) 273-0140, or mailed to:

Mail Stop Assignment Recordation Services

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

Director of the US Patent and Trademark Office P.O. Box 1450

P.O. Box 1450 Alexandria, VA 22313-1450

Docket No. 5882P099

ASSIGNMENT

| In consideration of the receipt of good and receipt and sufficiency of which is hereby acknow | |
|---|--|
| (1) Hyun Soon Nam | |
| (2) Eun Young Cho | |
| (3) Byung Ho Yae | |
| who have made a certain new and useful invention ELECTRONICS AND TELECOMMUNICATION organized under the laws of the Republic of Kore Yuseong-gu, Daejeon, Republic of Korea, | NS RESEARCH INSTITUTE, a institute |
| its successors and assigns (hereinafter designated "ASSI the United States of America as defined in 35 U.S.C. 100 | 0 in the invention entitled |
| APPARATUS AND METHOD FOR MANAGING Q IN A CONVERGENCE | |
| (a) for which an application for United States Letters Pa and identified by United States Serial No. 1/20018 or (b) for which an application for United States Letters Pa | 89 ; |
| and the undersigned hereby authorize and request the Trademarks to issue any and all United States Letters Patall extensions, divisions, reissues, substitutes, renewals or under the International Convention for the Protection of Infiniterest as ASSIGNEE, its successors, assigns and legal attorneys of record in said application shall hereafter act or | te United States Commissioner of Patent and tents which may be granted therefor and any and continuations thereof, and the right to all benefits industrial Property to the said ASSIGNEE, for its representatives; the undersigned agree that the |
| AND the undersigned hereby agree to transfer a like in making application for and obtaining original, divisional, restates, upon request of the said ASSIGNEE, its successor further remuneration, in and to any improvements, and approximately related to the said invention; and to execute any paper and legal representatives, deemed essential to ASSIGNEE' hereby transferred. | reissued or extended Letters Patent of the United rs, assigns and legal representatives, and without plications for patent based thereon, growing out of rs by the said ASSIGNEE, its successors, assigns |
| SIGNED of the dates indicated aside our signatures | s: |
| INVENTORS | DATE SIGNED |
| Name: Hyun Soon Nam | November 7, 2005 |
| 2) Name: Eun Young Cho | November 7, 2005 |
| 3) Caffle Z Name: Byung Ho Yae | November 7, 2005 |

PATENT REEL: 017682 FRAME: 0669

RECORDED: 03/17/2006