PATENT ASSIGNMENT

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

CONVEYING PARTY DATA

| Name | Execution Date |
|----------------|----------------|
| Jung-woo KIM | 04/02/2010 |
| Sung-bum PARK | 04/02/2010 |
| Dai-woong CHOI | 04/02/2010 |
| Jae-won YOON | 04/02/2010 |

RECEIVING PARTY DATA

| Name: | Samsung Electronics Co., Ltd. | |
|-------------------|--------------------------------|--|
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| Internal Address: | Gyeonggi-do | |
| City: | Suwon-si | |
| State/Country: | REPUBLIC OF KOREA | |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 12843994 |

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|-------------------------|---------------------|
| NAME OF SUBMITTER: | Christopher R. Lipp |

Total Attachments: 1

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PATENT REEL: 024745 FRAME: 0104

Assignment

| Whereas, We, Jung-woo KIM, Sung-bum PARK, Dai-woong CHOI, Jae-won YOON of Seoul, Republic of Korea, Seongnam-si, Republic of Korea, Seoul, Republic of Korea and Seoul, Republic of Korea, respectively, hereinafter called assignors, have invented certain improvements in METHOD AND APPARATUS FOR ENCODING AND DECODING DATA WITH ALTERED BIT SEQUENCE and executed an application for Letters Patent of the United States of America therefor on; and |
|--|
| Whereas, SAMSUNG ELECTRONICS CO., LTD., 416, Maetan-dong, Yeongtong-gu, Suwon-si, Gyeonggi-do, Republic of Korea (assignee), desires to acquire the entire right, title, and interest in the application and invention, and to any United States patents to be obtained therefor; |
| Now therefore, for valuable consideration, receipt whereof is hereby acknowledged, |
| We, the above named assignors, hereby sell, assign and transfer to the above named assignee, its successors and assigns, the entire right, title and interest in the application and the invention disclosed therein for the United States of America, including all divisions, and continuations thereof, and all Letters Patent of the United States that may be granted thereon, and all reissues thereof, including the right to claim priority under 35 U.S.C. §119, and we request the Director of the U.S. Patent and Trademark Office to issue any Letters Patent granted upon the invention set forth in the application to the assignee, its successors and assigns; and we will execute without further consideration all papers deemed necessary by the assignee in connection with the United States application when called upon to do so by the assignee. |
| We hereby authorize and request our attorneys SUGHRUE MION, PLLC of 2100 |
| Pennsylvania Avenue, NW, Washington, DC 20037-3213 to insert here in parentheses (Application number, filed |
| the application number and filing date of said application when known. |
| Date: 2. April , 20/0 |
| s/Jung twoo KIM |
| Date: 2. Apr. 2010 |
| Date: 2. April. 2019 |
| Date: 2 - Apr. 2010 |
| s/Jac won YOON |

(Legalization not required for recording but is prima facie evidence of execution under 35 U.S.C. §261)

PATENT REEL: 024745 FRAME: 0105

RECORDED: 07/27/2010