

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT3908722

|                                                                                                                                                                                                 |                                            |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|
| <b>SUBMISSION TYPE:</b>                                                                                                                                                                         | NEW ASSIGNMENT                             |
| <b>NATURE OF CONVEYANCE:</b>                                                                                                                                                                    | ASSIGNMENT                                 |
| <b>CONVEYING PARTY DATA</b>                                                                                                                                                                     |                                            |
| <b>Name</b>                                                                                                                                                                                     | <b>Execution Date</b>                      |
| WENBO ZHANG                                                                                                                                                                                     | 06/08/2016                                 |
| YANLI LI                                                                                                                                                                                        | 06/08/2016                                 |
| CHAO YAN                                                                                                                                                                                        | 06/08/2016                                 |
| JUNJUN XIONG                                                                                                                                                                                    | 06/08/2016                                 |
| ZHIXUAN LI                                                                                                                                                                                      | 06/08/2016                                 |
| <b>RECEIVING PARTY DATA</b>                                                                                                                                                                     |                                            |
| <b>Name:</b>                                                                                                                                                                                    | SAMSUNG ELECTRONICS CO., LTD.              |
| <b>Street Address:</b>                                                                                                                                                                          | 129, SAMSUNG-RO, YEONGTONG-GU, GYEONGGI-DO |
| <b>City:</b>                                                                                                                                                                                    | SUWON-SI                                   |
| <b>State/Country:</b>                                                                                                                                                                           | KOREA, REPUBLIC OF                         |
| <b>Postal Code:</b>                                                                                                                                                                             | 16677                                      |
| <b>PROPERTY NUMBERS Total: 1</b>                                                                                                                                                                |                                            |
| <b>Property Type</b>                                                                                                                                                                            | <b>Number</b>                              |
| <b>Application Number:</b>                                                                                                                                                                      | 15176763                                   |
| <b>CORRESPONDENCE DATA</b>                                                                                                                                                                      |                                            |
| <b>Fax Number:</b>                                                                                                                                                                              | (202)293-7860                              |
| <i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.</i> |                                            |
| <b>Phone:</b>                                                                                                                                                                                   | 202-293-7060                               |
| <b>Email:</b>                                                                                                                                                                                   | sughrue@sughrue.com, bjung@sughrue.com     |
| <b>Correspondent Name:</b>                                                                                                                                                                      | SUGHRUE MION, PLLC                         |
| <b>Address Line 1:</b>                                                                                                                                                                          | 2100 PENNSYLVANIA AVENUE, N.W.             |
| <b>Address Line 2:</b>                                                                                                                                                                          | SUITE 800                                  |
| <b>Address Line 4:</b>                                                                                                                                                                          | WASHINGTON, D.C. 20037                     |
| <b>ATTORNEY DOCKET NUMBER:</b>                                                                                                                                                                  | Q227300                                    |
| <b>NAME OF SUBMITTER:</b>                                                                                                                                                                       | BORAMJUNG - TEAM                           |
| <b>SIGNATURE:</b>                                                                                                                                                                               | /boramjung/                                |
| <b>DATE SIGNED:</b>                                                                                                                                                                             | 06/08/2016                                 |
| This document serves as an Oath/Declaration (37 CFR 1.63).                                                                                                                                      |                                            |

**Total Attachments: 3**

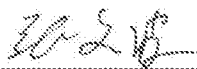
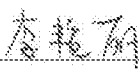
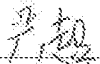
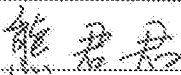
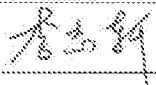
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|------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|
| <b>NAME OF SOLE OR FIRST INVENTOR:</b><br>단독 혹은 최초 발명자의 성명 |                                                                                                                                      |                                |
| Given Name (first and middle [if any])<br>이름(성씨는 제외)       | Wenbo                                                                                                                                | Family Name or Surname<br>성(姓) |
| Inventor's signature<br>발명자의 서명                            |                                                     | Date<br>일자                     |
| Residence:<br>거주지:                                         | Beijing, China                                                                                                                       |                                |
| Mailing Address:<br>우편 주소:                                 | Beijing Samsung Telecom R&D Center, 18F Sun Palace., Building, No.12A, Tai Yang Gong Middle Road, Chao Yang District, Beijing, China |                                |
| <b>NAME OF SECOND INVENTOR:</b><br>두번째 발명자의 성명             |                                                                                                                                      |                                |
| Given Name (first and middle [if any])<br>이름(성씨는 제외)       | Yanli                                                                                                                                | Family Name or Surname<br>성(姓) |
| Inventor's signature<br>발명자의 서명                            |                                                     | Date<br>일자                     |
| Residence:<br>거주지:                                         | Beijing, China                                                                                                                       |                                |
| Mailing Address:<br>우편 주소:                                 | Beijing Samsung Telecom R&D Center, 18F Sun Palace., Building, No.12A, Tai Yang Gong Middle Road, Chao Yang District, Beijing, China |                                |
| <b>NAME OF THIRD INVENTOR:</b><br>세번째 발명자의 성명              |                                                                                                                                      |                                |
| Given Name (first and middle [if any])<br>이름(성씨는 제외)       | Chao                                                                                                                                 | Family Name or Surname<br>성(姓) |
| Inventor's signature<br>발명자의 서명                            |                                                    | Date<br>일자                     |
| Residence:<br>거주지:                                         | Beijing, China                                                                                                                       |                                |
| Mailing Address:<br>우편 주소:                                 | Beijing Samsung Telecom R&D Center, 18F Sun Palace., Building, No.12A, Tai Yang Gong Middle Road, Chao Yang District, Beijing, China |                                |
| <b>NAME OF FOURTH INVENTOR:</b><br>네번째 발명자의 성명             |                                                                                                                                      |                                |
| Given Name (first and middle [if any])<br>이름(성씨는 제외)       | Junjun                                                                                                                               | Family Name or Surname<br>성(姓) |
| Inventor's signature<br>발명자의 서명                            |                                                   | Date<br>일자                     |
| Residence:<br>거주지:                                         | Beijing, China                                                                                                                       |                                |
| Mailing Address:<br>우편 주소:                                 | Beijing Samsung Telecom R&D Center, 18F Sun Palace., Building, No.12A, Tai Yang Gong Middle Road, Chao Yang District, Beijing, China |                                |
| <b>NAME OF FIFTH INVENTOR:</b><br>다섯번째 발명자의 성명             |                                                                                                                                      |                                |
| Given Name (first and middle [if any])<br>이름(성씨는 제외)       | Zhixuan                                                                                                                              | Family Name or Surname<br>성(姓) |
| Inventor's signature<br>발명자의 서명                            |                                                   | Date<br>일자                     |
| Residence:<br>거주지:                                         | Beijing, China                                                                                                                       |                                |
| Mailing Address:<br>우편 주소:                                 | Beijing Samsung Telecom R&D Center, 18F Sun Palace., Building, No.12A, Tai Yang Gong Middle Road, Chao Yang District, Beijing, China |                                |