PATENT ASSIGNMENT

Electronic Version v1.1 Stylesheet Version v1.1

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

CONVEYING PARTY DATA

| Name | Execution Date |
|------------------|----------------|
| So Yeon KIM | 11/01/2011 |
| Seong Ho MOON | 10/31/2011 |
| Jae Hoon CHUNG | 10/31/2011 |
| Yeong Hyeon KWON | 11/01/2011 |
| Han Gyu CHO | 10/31/2011 |

RECEIVING PARTY DATA

| Name: | LG ELECTRONICS INC. |
|-----------------|---------------------------------|
| Street Address: | 20 Yeouido-dong Yeongdeungpo-gu |
| City: | Seoul |
| State/Country: | REPUBLIC OF KOREA |
| Postal Code: | 150-721 |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 13320508 |

CORRESPONDENCE DATA

 Fax Number:
 (703)205-8050

 Phone:
 703-205-8000

 Email:
 mailroom@bskb.com

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent

via US Mail.

Correspondent Name: Birch, Stewart, Kolasch & Birch, LLP

Address Line 1: P.O. Box 747

Address Line 4: Falls Church, VIRGINIA 22040-0747

| ATTORNEY DOCKET NUMBER: | 5438-0272PUS1 |
|-------------------------|-----------------|
| NAME OF SUBMITTER: | Esther H. Chong |

PATENT REEL: 027229 FRAME: 0373 1332050

00 0V # HJ

Total Attachments: 8

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BIRCH, STEWART, KOLASCH & BIRCH, LLP

UNITED STATES PATENT RIGHTS, OR
UNITED STATES PLUS ALL FOREIGN PATENT RIGHTS

ASSIGNMENT

| Application No. | 13/320,508 | Filed | November 14, 2011 |
|--|--|--|---|
| Insert Name(s) of Inventor(s) | ***(Given Name | FAMILY NAME (ALL CAP | (S))*** |
| () | | | , Jae Hoon; KWON, Yeong Hyeon and as (have) invented certain new and useful |
| Insert Title of Invention | DEVICE AND METHOD FOR M SYSTEM | IONITORING CONTRO | OL CHANNEL IN MULTICARRIER |
| | for which an application for Letters undersigned (except in the case of a | | ates of America has been executed by the |
| Insert Date | on November 1, 2011 | | ; and |
| of Signing of Application Insert Name of Assignee Insert Address | WHEREAS, LG ELECTRONICS of 20 Yeouido-dong Yeongdeungpo | | lic of Korea |
| of Assignee | | | |
| CHECK BOX IF APPROPRIATE | | t, title and interest in and | reinafter designated as the Assignee) is to said invention and in and to any Letters America and |
| IF APPROPRIATE | paid, the receipt of which is herel undersigned has (have) sold, assig transfer unto said Assignee the ful America, its territories, dependencie and all Letters Patent(s) which may | by acknowledged, and of ned and transferred, and I and exclusive right to t is and possessions and the be granted therefor in th | ollars (\$10.00) to the undersigned in hand her good and valuable consideration, the I by these presents does sell, assign and the said invention in the United States of entire right, title and interest in and to any e United States of America, its territories, ated, in any and all foreign countries: |

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

or terms for which the same may be granted.

and to any and all divisions, reissues, continuations, conversions and extensions thereof for the full term

The undersigned agree (s) to execute all papers necessary in connection with any interference which may be declared concerning this application or continuation, division, conversion or reissue thereof or Letter Patent(s) or reissue patent issued thereon and to cooperate with the Assignee in every way possible in obtaining and producing evidence and proceeding with such interference.

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

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

REEL: 027229 FRAME: 0375

The undersigned agree(s) to execute all papers and documents and to perform any act which may be necessary in connection with claims or provisions of the International Convention for the 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 of America and any foreign patent(s) to the Assignee and to vest all rights therein hereby conveyed to said Assignee as fully and entirely as the same would have been held by the undersigned if this Assignment and sale had not been made.

The undersigned hereby authorize(s) and request(s) the Patent and Trademark Office Officials in the United States of America and in any foreign countries to issue any and all Letters Patents resulting from said application or any continuing, divisional conversion or reissue applications thereof to the said Assignee, as Assignee of the entire interest, and hereby covenants that he has (they have) the 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 law firm of Birch, Stewart, Kolasch & Birch, LLP 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 U.S. Patent and Trademark Office for recordation of this document.

The undersigned hereby covenant(s) that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this assignment.

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

| Date _ | (st., NOV 7011, | Name of Inventor (signature) KIM, So Yeon | |
|--------|-----------------|--|--------------|
| Date _ | . | Name of Inventor (signature) MOON, Seong Ho | |
| Date _ | | Name of Inventor (signature) CHUNG, Jae Hoon | |
| Date _ | | Name of Inventor (signature) KWON, Yeong Hyeon | |
| Date _ | · | Name of Inventor (signature) CHO, Han Gyu | |

ATTORNEY DOCKET NO. 5438-0272PUS1

BIRCH, STEWART, KOLASCH & BIRCH, LLP

UNITED STATES PATENT RIGHTS, OR UNITED STATES PLUS ALL FOREIGN PATENT RIGHTS

ASSIGNMENT

| Application No. | 13/320,508 | Filed | November 14, 2011 | |
|-------------------------------------|--|---|--|--|
| Insert Name(s) of Inventor(s) | ***(Given Name FAN | IILY NAME (ALL CAP | S))*** | |
| or inventor (a) | WHEREAS, KIM, So Yeon; MOON CHO, Han Gyu (hereinaster designated a improvements in: | , Seong Ho; CHUNG as the undersigned) ha | , Jac Hoon; KWON, Yeong Hyeon and as (have) invented certain new and useful | |
| Insert Title of Invention | DEVICE AND METHOD FOR MON SYSTEM | ITORING CONTRO | OL CHANNEL IN MULTICARRIER | |
| | for which an application for Letters Paundersigned (except in the case of a pro- | | ates of America has been executed by the | |
| Insert Date of Signing of | on October 31, 2011 | <u></u> | ; and | |
| Application Insert Name of Assignce | WHEREAS, LG ELECTRONICS INC | | | |
| Insert Address of Assignee | of 20 Yeouido-dong Yeongdeungpo-gu Scoul 150-721 Republic of Korea | | | |
| CHECK BOX IF APPROPRIATE | its heirs, successors, legal representate desirous of acquiring the entire right, tit Patent(s) that may be granted therefor in in any foreign countries. | le and interest in and | reinafter designated as the Assignee) is to said invention and in and to any Letters America and | |
| IF APPROPRIATE | paid, the receipt of which is hereby a undersigned has (have) sold, assigned transfer unto said Assignee the full and America, its territories, dependencies a any and all Letters Patent(s) which m | eknowledged, and oth and transferred, and d exclusive right to the nd possessions and the any be granted theref | ollars (\$10.00) to the undersigned in hand ther good and valuable consideration, the by these presents does sell, assign and the said invention in the United States of the entire right, title and interest in and to for in the United States of America, its ove is designated, in any and all foreign | |
| | and to any and all divisions, reissues, term or terms for which the same may be | | rsions and extensions thereof for the full | |
| | | olications thereof and | connection with this application and any also to execute separate assignments in or expedient. | |
| | declared concerning this application or | continuation, division | connection with any interference which a, conversion or reissue thereof or Letter signed in every way possible in obtaining | |

The undersigned agree(s) to execute all papers and documents and to perform any act which may be

necessary in connection with claims or provisions of the International Convention for the Protection of

and producing evidence and proceeding with such interference.

Industrial Property or similar agreements.

ATTORNEY DOCKET NO. 5438-0272PUS1

The undersigned agrec(s) to execute all papers and documents and to perform any act which may be necessary in connection with claims or provisions of the International Convention for the 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 of America and any foreign patent(s) to the Assignee and to vest all rights therein hereby conveyed to said Assignee as fully and entirely as the same would have been held by the undersigned if this Assignment and sale had not been made.

The undersigned hereby authorize(s) and request(s) the Patent and Trademark Office Officials in the United States of America and in any foreign countries to issue any and all Letters Patents resulting from said application or any continuing, divisional conversion or reissue applications thereof to the said Assignee, as Assignee of the entire interest, and hereby covenants that he has (they have) the 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 law firm of Birch, Stewart, Kolasch & Birch, LLP 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 U.S. Patent and Trademark Office for recordation of this document.

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

| Date _ | | , 1 | Name of Inventor | |
|--------|-------------|-----|-------------------------|-------------------------------|
| Date | 001.31.2011 | | (Name of Inventor | (signature) KIM, So Yeon |
| | : | | Ō | (signature) MOON, Seong Ho |
| Date _ | | 1 و | Name of Inventor (| (signature) CHUNG, Jac Hoon |
| Date _ | | , 1 | Name of Inventor (| (signature) KWON, Yeong Hyeon |
| Datc _ | | , 1 | Name of Inventor _ (| (signature) CHO, Han Gyu |

BIRCH, STEWART, KOLASCH & BIRCH, LLP

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| Application No. | 13/320,508 | Filed | November 14, 2011 |
|--|---|--|---|
| Insert Name(s) of Inventor(s) | ***(Given Name FAM | ILY NAME (ALL CAPS |))*** |
| , , | WHEREAS, KIM, So Yeon; MOON, CHO, Han Gyu (hereinafter designated a improvements in: | | |
| Insert Title of Invention | DEVICE AND METHOD FOR MONISYSTEM | TORING CONTROI | L CHANNEL IN MULTICARRIER |
| | for which an application for Letters Patundersigned (except in the case of a prov | | es of America has been executed by the |
| Insert Date of Signing of Application | onOctober 31, 2011 | | ; and |
| Insert Name | WHEREAS, LG ELECTRONICS INC | • | |
| of Assignee Insert Address of Assignee | of 20 Yeouido-dong Yeongdeungpo-gu S | Seoul 150-721 Republi | ic of Korea |
| CHECK BOX IF APPROPRIATE | its heirs, successors, legal representative desirous of acquiring the entire right, title Patent(s) that may be granted therefor in x in any foreign countries. | e and interest in and to | said invention and in and to any Letters |
| | NOW, THEREFORE, in consideration of paid, the receipt of which is hereby accundersigned has (have) sold, assigned transfer unto said Assignee the full and America, its territories, dependencies and any and all Letters Patent(s) which m territories, dependencies and possession countries; | knowledged, and othe and transferred, and exclusive right to the d possessions and the ay be granted therefore | er good and valuable consideration, the by these presents does sell, assign and e said invention in the United States of e entire right, title and interest in and to or in the United States of America, its |
| | and to any and all divisions, reissues, of term or terms for which the same may be | | ions and extensions thereof for the full |

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

| Date , | Name of Inventor |
|---------------------|--|
| | (signature) KIM, So Yeon |
| | |
| Date | Name of Inventor |
| | (signature) MOON, Seong Ho |
| Date 310ct., 2011, | Name of Inventor (segrature) CHUNG, Jae Hoon |
| | (signature) CHUNG, Jae Hoon |
| Date | Name of Inventor |
| , | (signature) KWON, Yeong Hyeon |
| Date 31. Oct. 2011, | Name of Inventor |
| • | (signature) CHO, Han Gyu |

BIRCH, STEWART, KOLASCH & BIRCH, LLP

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ASSIGNMENT

| Application No. | 13/320,508 | Filed | November 14, 2011 | |
|--|--|--|---|-------------------------|
| Insert Name(s) of Inventor(s) | ***(Given Name FAMILY NAM | E (ALL CAPS | ;))*** | |
| | WHEREAS, KIM, So Yeon; MOON, Seong H CHO, Han Gyu (hereinafter designated as the und improvements in: | | | ıl |
| Insert Title of Invention | DEVICE AND METHOD FOR MONITORING SYSTEM | G CONTRO | L CHANNEL IN MULTICARRIER | - |
| | for which an application for Letters Patent of the undersigned (except in the case of a provisional application). | | tes of America has been executed by t | the |
| Insert Date of Signing of | onNovember 1, 2011 | | ; and | |
| Application Insert Name of Assignee Insert Address | WHEREAS, LG ELECTRONICS INC. | 701 D 11 | | |
| of Assignee | of 20 Yeouido-dong Yeongdeungpo-gu Seoul 150 | -/21 Republ | ic of Korea | |
| CHECK BOX IF APPROPRIATE | its heirs, successors, legal representatives and desirous of acquiring the entire right, title and into Patent(s) that may be granted therefor in the Unite x in any foreign countries. | erest in and to | o said invention and in and to any Lett | |
| IF APPROPRIATE | NOW, THEREFORE, in consideration of the sur paid, the receipt of which is hereby acknowled, undersigned has (have) sold, assigned and trans- transfer unto said Assignee the full and exclusiv America, its territories, dependencies and possessi and all Letters Patent(s) which may be granted the dependencies and possessions, and if the box above | ged, and othesferred, and we right to the cons and the core for in the | er good and valuable consideration, to by these presents does sell, assign a see said invention in the United States entire right, title and interest in and to a United States of America, its territori | the and of any |
| | and to any and all divisions, reissues, continuation or terms for which the same may be granted. | is, conversion | ns and extensions thereof for the full te | rm |

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REEL: 027229 FRAME: 0381

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

| Date | | , | Name of Inventor | |
|------|-------------|----|------------------|-------------------------------|
| | | _ | | (signature) KIM, So Yeon |
| Date | | , | Name of Inventor | (signature) MOON, Seong Ho |
| Date | | _• | Name of Inventor | (signature) CHUNG, Jae Hoon |
| Date | 2011-Nov-01 | , | Name of Inventor | (signature) KWON, Yeong Hyeon |
| Date | | _, | Name of Inventor | (signature) CHO, Han Gyu |

PATENT REEL: 027229 FRAME: 0382

RECORDED: 11/15/2011