505576764 07/17/2019

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 EPAS ID: PAT5623563 Stylesheet Version v1.2

 SUBMISSION TYPE:
 NEW ASSIGNMENT

 NATURE OF CONVEYANCE:
 ASSIGNMENT

CONVEYING PARTY DATA

| Name | Execution Date |
|---------------|----------------|
| XIAODONG SHEN | 06/14/2019 |
| XIAODONG SUN | 06/26/2019 |
| YU DING | 06/19/2019 |

RECEIVING PARTY DATA

| Name: | VIVO MOBILE COMMUNICATION CO., LTD. |
|-------------------|-------------------------------------|
| Street Address: | 283, BBK ROAD, WUSHA |
| Internal Address: | CHANG'AN DONGGUAN |
| City: | GUANGDONG |
| State/Country: | CHINA |
| Postal Code: | 523860 |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 16478803 |

CORRESPONDENCE DATA

Fax Number: (312)977-9959

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.

Phone: 312-977-9902

Email: tmorales@millermatthiashull.com
Correspondent Name: MILLER, MATTHIAS & HULL LLP
Address Line 1: ONE NORTH FRANKLIN STREET

Address Line 2: SUITE 2350

Address Line 4: CHICAGO, ILLINOIS 60606

| ATTORNEY DOCKET NUMBER: 60193/PIUS1920450CN | | |
|---------------------------------------------|------------------------------------------------------------|--|
| NAME OF SUBMITTER: | SCOTT E. BAXENDALE | |
| SIGNATURE: | /Scott E. Baxendale/ | |
| DATE SIGNED: | 07/17/2019 | |
| | This document serves as an Oath/Declaration (37 CFR 1.63). | |
| | <u> </u> | |

Total Attachments: 6

PATENT REEL: 049782 FRAME: 0755

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source=2019-07-17_Combined_Assignment_and_Declaration_PIUS1920450CN#page1.tif source=2019-07-17_Combined_Assignment_and_Declaration_PIUS1920450CN#page2.tif source=2019-07-17_Combined_Assignment_and_Declaration_PIUS1920450CN#page3.tif source=2019-07-17_Combined_Assignment_and_Declaration_PIUS1920450CN#page4.tif source=2019-07-17_Combined_Assignment_and_Declaration_PIUS1920450CN#page5.tif source=2019-07-17_Combined_Assignment_and_Declaration_PIUS1920450CN#page6.tif

PATENT REEL: 049782 FRAME: 0756

COMBINED DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76) AND ASSIGNMENT

| Title of Invention | SIDE INFORMATION TRANSMISSION METHOD, SIDE INFORMATION RECEPTION METHOD, TRANSMITTER AND RECEIVER |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| As a below | named inventor, I hereby declare that: |
| This decla | ration |
| is directed | to: The attached application, or |
| | United States application or PCT international application numberfiled on |
| The above- | dentified application was made or authorized to be made by me. |
| i believe tha in the applic | at I am the original inventor or an original joint inventor of a claimed invention ation. |
| | knowledge that any willful false statement made in this declaration is under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) th. |
| parentheses | by authorize and request my attorney or representative to insert here in (patent Application number, filed) the filing offication number of said US application when known. |
| | |

FOR GOOD AND VALUABLE CONSIDERATION, the receipt, sufficiency and adequacy of which are hereby acknowledged, each undersigned inventor (hereinafter referred to as "ASSIGNOR"), do hereby:

SELL, ASSIGN AND TRANSFER to <u>VIVO MOBILE COMMUNICATION CO.LTD</u>, having a place of business at #283, <u>BBK Road Wusha Chang'an Dongguan Guangdong 523860</u>, China, (hereinafter referred to as "ASSIGNEE") the entire right, title and interest for the United States and all foreign countries in and to any and all inventions which are disclosed in the above-identified application for United States Letters Patent, which has been executed by the undersigned concurrently herewith, which is a national phase filing of <u>PCT/CN2017/119823</u> filed on <u>December 29, 2017</u>; which in turn claims priority to <u>CN 201710031854.X</u> filed on <u>January 17, 2017</u>; such applications and all divisional, continuing, substitute, renewal, reissue and all other applications for patent which have been or shall be filed in the United States and all foreign countries on any of such inventions; all original and reissued patents which have been or shall be issued in the United States and all foreign countries on such inventions; and specifically including the right to file foreign applications under the provisions of any convention or treaty and claim priority based on such application in the United States;

AUTHORIZE AND REQUEST the issuing authority to issue any and all United States and foreign patents granted on such inventions to the Assignee;

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PATENT REEL: 049782 FRAME: 0757

Docket No. P20170315-WO-US-PIUS1920450CN

WARRANT AND COVENANT that no assignment, grant, mortgage, license or other agreement affecting the rights and property herein conveyed has been or will be made to others by the undersigned, and that the full right to convey the same as herein expressed is possessed by the undersigned;

COVENANT, when requested and at the expense of the Assignee, to carry out in good faith the intent and purpose of this assignment, the undersigned will execute all divisional, continuing, substitute, renewal, reissue, and all other patent applications on any and all such inventions; execute all rightful oaths, declarations, assignments, powers of attorney and other papers; communicate to the Assignee all facts known to the undersigned relating to such inventions and the history thereof; and generally do everything possible which the Assignee shall consider desirable for vesting title to such inventions in the Assignee, and for securing, maintaining and enforcing proper patent protection for such inventions;

TO BE BINDING on the heirs; assigns, representatives and successors of the undersigned and extend to the successors, assigns and nominees of the Assignee.

ASSIGNOR HEREBY REPRESENTS AND WARRANTS that ASSIGNOR has the full and unencumbered right to sell, assign, and transfer the interests sold, assigned, and transferred herein, and that ASSIGNOR has not executed and will not execute any document or instrument in conflict herewith.

ASSIGNOR HEREBY GRANTS to the agents and attorneys of MILLER, MATTHIAS & HULL LLP the power and authority to insert in this Assignment any further identification which may be necessary or desirable to comply with the rules of the U.S. Patent and Trademark Office for recordation of this Assignment.

The assignment of said invention is effective as of the earlier of (1) the date of execution shown below or (2) the filing date of the first filed of said patent applications.

STATEMENTS

I have reviewed and understand the contents of the above-identified application, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose to the United States Patent Office all information known to me to be material to patentability as defined in 37 C.F.R. 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part.

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|----|----------------------------------------|
| | LEGAL NAME OF INVENTOR |
| | Inventor: Xiaodong SHEN Date: VOI 6 14 |
| | Signature: Lipsdorg Shan |
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COMBINED DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76) AND ASSIGNMENT

| Title of Invention | SIDE INFORMATION TRANSMISSION METHOD, SIDE INFORMATION RECEPTION METHOD, TRANSMITTER AND RECEIVER |
|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| As a below | named inventor, I hereby declare that: |
| This decla | |
| is directed | to: The attached application, or United States application or PCT international application numberfiled on |
| The above- | dentified application was made or authorized to be made by me. |
| I believe tha in the applic | it I am the original inventor or an original joint inventor of a claimed invention ation. |
| | (nowledge that any willful false statement made in this declaration is under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) th. |
| | by authorize and request my attorney or representative to insert here in (patent Application number , filed) the filing |

FOR GOOD AND VALUABLE CONSIDERATION, the receipt, sufficiency and adequacy of which are hereby acknowledged, each undersigned inventor (hereinafter referred to as "ASSIGNOR"), do hereby:

date and application number of said US application when known.

SELL, ASSIGN AND TRANSFER to <u>VIVO MOBILE COMMUNICATION CO.LTD.</u>, having a place of business at #283_BBK_Road, Wusha, Chang'an Dongguan. Guangdong 523860, China, (hereinafter referred to as "ASSIGNEE") the entire right, title and interest for the United States and all foreign countries in and to any and all inventions which are disclosed in the above-identified application for United States Letters Patent, which has been executed by the undersigned concurrently herewith, which is a national phase filing of PCT/CN2017/119823 filed on December 29, 2017; which in turn claims priority to CN 201710031854 X filed on January 17, 2017; such applications and all divisional, continuing, substitute, renewal, reissue and all other applications for patent which have been or shall be filed in the United States and all foreign countries on any of such inventions; all original and reissued patents which have been or shall be issued in the United States and all foreign countries on such inventions; and specifically including the right to file foreign applications under the provisions of any convention or treaty and claim priority based on such application in the United States;

AUTHORIZE AND REQUEST the issuing authority to issue any and all United States and foreign patents granted on such inventions to the Assignee;

3

PATENT REEL: 049782 FRAME: 0759

Docket No. P20170315-WO-US-PIUS1920450CN

WARRANT AND COVENANT that no assignment, grant, mortgage, license or other agreement affecting the rights and property herein conveyed has been or will be made to others by the undersigned, and that the full right to convey the same as herein expressed is possessed by the undersigned;

COVENANT, when requested and at the expense of the Assignee, to carry out in good faith the intent and purpose of this assignment, the undersigned will execute all divisional, continuing, substitute, renewal, reissue, and all other patent applications on any and all such inventions; execute all rightful oaths, declarations, assignments, powers of attorney and other papers; communicate to the Assignee all facts known to the undersigned relating to such inventions and the history thereof; and generally do everything possible which the Assignee shall consider desirable for vesting title to such inventions in the Assignee, and for securing, maintaining and enforcing proper patent protection for such inventions;

TO BE BINDING on the heirs; assigns, representatives and successors of the undersigned and extend to the successors, assigns and nominees of the Assignee.

ASSIGNOR HEREBY REPRESENTS AND WARRANTS that ASSIGNOR has the full and unencumbered right to sell, assign, and transfer the interests sold, assigned, and transferred herein, and that ASSIGNOR has not executed and will not execute any document or instrument in conflict herewith.

ASSIGNOR HEREBY GRANTS to the agents and attorneys of MILLER.

MATTHIAS & HULL LLP the power and authority to insert in this Assignment any further identification which may be necessary or desirable to comply with the rules of the U.S. Patent and Trademark Office for recordation of this Assignment.

The assignment of said invention is effective as of the earlier of (1) the date of execution shown below or (2) the filing date of the first filed of said patent applications.

STATEMENTS

I have reviewed and understand the contents of the above-identified application, including the claims, as amended by any amendment referred to above.

l acknowledge the duty to disclose to the United States Patent Office all information known to me to be material to patentability as defined in 37 C.F.R. 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part.

| | | *************************************** | |
|-------------------------------------|------------|-----------------------------------------|--|
| LEGAL NAME OF INVENTOR | · / | | |
| Inventor: <u>Xiaodong SUN</u> Date: | 2019.06.24 | | |
| Signature: XLOODOYO | SUN | | |
| | | | |

4

COMBINED DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76) AND ASSIGNMENT

| Title of Invention | SIDE INFORMATION TRANSMISSION METHOD, SIDE INFORMATION RECEPTION METHOD, TRANSMITTER AND RECEIVER |
|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| As a below | named inventor, I hereby declare that: |
| This decla | ration |
| is directed | to: R The attached application, or |
| The above- | United States application or PCT international application numberfiled on dentified application was made or authorized to be made by me. |
| i believe tha in the applic | at I am the original inventor or an original joint inventor of a claimed invention ation. |
| | knowledge that any willful false statement made in this declaration is under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) th. |
| parentheses | by authorize and request my attorney or representative to insert here in (patent Application number, filed) the filing olication number of said US application when known. |

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AUTHORIZE AND REQUEST the issuing authority to issue any and all United States and foreign patents granted on such inventions to the Assignee;

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WARRANT AND COVENANT that no assignment, grant, mortgage, license or other agreement affecting the rights and property herein conveyed has been or will be made to others by the undersigned, and that the full right to convey the same as herein expressed is possessed by the undersigned;

COVENANT, when requested and at the expense of the Assignee, to carry out in good faith the intent and purpose of this assignment, the undersigned will execute all divisional, continuing, substitute, renewal, reissue, and all other patent applications on any and all such inventions; execute all rightful oaths, declarations, assignments, powers of attorney and other papers; communicate to the Assignee all facts known to the undersigned relating to such inventions and the history thereof; and generally do everything possible which the Assignee shall consider desirable for vesting title to such inventions in the Assignee, and for securing, maintaining and enforcing proper patent protection for such inventions;

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| | *********** |
|------------------------------------|-------------|
| LEGAL NAME OF INVENTOR | |
| Inventor: Yu DING Date: 2019. 6.19 | |
| Signature: Yu DIVG | |

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RECORDED: 07/17/2019