PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2

EPAS ID: PAT5973216

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

CONVEYING PARTY DATA

| Name | Execution Date |
|------------------------|----------------|
| JINGPING XU | 08/21/2018 |
| BALASUNDAR IYYAVU RAJU | 08/23/2018 |
| SHOUGANG WANG | 08/21/2018 |

RECEIVING PARTY DATA

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| State/Country: | NETHERLANDS |
| Postal Code: | 5656 AG |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 16640506 |

CORRESPONDENCE DATA

Fax Number:

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.

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| ATTORNEY DOCKET NUMBER: | 2017P01744WOUS01 |
|-------------------------|------------------|
| NAME OF SUBMITTER: | BARBARA KINNEY |
| SIGNATURE: | /Barbara Kinney/ |
| DATE SIGNED: | 02/20/2020 |

Total Attachments: 3

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PATENT REEL: 051874 FRAME: 0817 505926498

| Date: | Signature: | | | Assignor/Inventor |
|--|-------------------------------------|---|---|--|
| Date: | Signature: | Balasundar Iyyavu RAJU | | Assignor/Inventor |
| Date: <u>Aug 21, 2018</u> | Signature: | Jingping XU | <u>u</u> , | Assignor/Inventor |
| I hereby acknowledge that any vimprisonment of not more than fi | | | n is punishable under 1i | 3 U.S.C. 1001 by fine or |
| As a below-named Inventor, I he and that I am the original Inventor | | | | |
| I/We certify that I/we have the fu | ill right to conv | rey the above rights. | | |
| I/We will provide my/our cooperation to proceedings including patent pronceedings including patent pronceedings, desirable, or convenionation in the Assignee. | the Assignee, esecution action | . I/we agree to execute all pape ons and infringement actions, a | irs, take all rightful oaths ind do all other such act | s, testify in all legal s which may be |
| I/We authorize and request that and all Letters Patent when gran representatives. | | | | |
| and all rights in and to said appli therewith, based thereon, or clai divisions, continuations, continua- thereto, and the entire and exclu- | ming priority ti ations-in-part, | herefrom including, but not lími re-examinations, reissues, and | ted to, any and all provi I extensions thereof, an | sionals, non-provisionals d the right to claim priority |
| was filed on 2018-Aug-17, h | aving an Inter | national Application No. PCT/E | :P2018/072370, | |
| is executed concurrently here was filed on ***, having a Un | | oplication No. *** | | |
| | , | · · · · · · · · · · · · · · · · · · · | | (Control Property |
| For good and valuable considers hereby sell, and assign, and tran having a place of business at Hig representatives, including any no | nsfer the entire gh Tech Camp | e and exclusive right, title, and i pus 5, 5656 AE, Eindhoven, the | nterest in the following Netherlands, its succe | to Koninklijke Philips N.V., ssors, assigns, and legal |

Shougang WANG

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PATENT REEL: 051874 FRAME: 0818

| Date: | Signature: Signature: | Jingping XV Balasundar Iyyavu RAJU | , Assignor/Inventor , Assignor/Inventor |
|---|------------------------------------|---|--|
| Date: | Signature: | Finerriers Whim. | , Assignor/Inventor |
| I hereby acknowledge that any imprisonment of not more than | | tement made in this declaration is punishable und or both. | er 18 U.S.C. 1001 by fine or |
| | | that the above-identified application was made or al joint Inventor of a claimed invention in the applic | |
| I/We certify that I/we have the f | ull right to conv | ey the above rights. | |
| Upon request at the expense of proceedings including patent pr | fthe Assignee, osecution actio | the Assignee to enjoy the foregoing right, title, an I/we agree to execute all papers, take all rightful ones and infringement actions, and do all other such and maintaining patents on the foregoing inven | oaths, testify in all legal n acts which may be |
| | | ice officials in the United States and in any and all the Assignee(s), for its sole use, and that of its suc | |
| therewith, based thereon, or cla divisions, continuations, continu | iming priority thations-in-part, i | other United States, foreign and international pate nerefrom including, but not limited to, any and all p re-examinations, reissues, and extensions thereof , and interest in and to any and all patents granted | provisionals, non-provisionals f, and the right to claim priority |
| was filed on ***, having a Ur was filed on 2018-Aug-17, I | | piication No. *^* national Application No. PCT/EP2018/072370, | |
| is executed concurrently he | | w | |
| hereby sell, and assign, and tra- having a place of business at H | nsfer the entire igh Tech Camp | I/we acknowledge receipt, I/we as a below-named and exclusive right, title, and interest in the follow ous 5, 5656 AE, Eindhoven, the Netherlands, its su ctively "the Assignee") my/our invention for which | ring to Koninklijke Philips N.V., uccessors, assigns, and legal |

Shougang WANG

PATENT REEL: 051874 FRAME: 0819

U.S.A. Sole/Joint

ASSIGNMENT & DECLARATION

Docket No. 2017P01744WO 01US

For good and valuable consideration, of which I/we acknowledge receipt, I/we as a below-named Assignor(s) or Inventor, hereby sell, and assign, and transfer the entire and exclusive right, title, and interest in the following to Koninklijke Philips N.V., having a place of business at High Tech Campus 5, 5656 AE, Eindhoven, the Netherlands, its successors, assigns, and legal representatives, including any nominees (collectively "the Assignee") my/our invention for which an application:

- is executed concurrently herewith
- was filed on ***, having a United States Application No. ***
- was filed on 2018-Aug-17, having an International Application No. PCT/EP2018/072370,

and all rights in and to said application, and all other United States, foreign and international patent applications associated therewith, based thereon, or claiming priority therefrom including, but not limited to, any and all provisionals, non-provisionals divisions, continuations, continuations-in-part, reexaminations, reissues, and extensions thereof, and the right to claim priority thereto, and the entire and exclusive right, title, and interest in and to any and all patents granted on these applications.

I/We authorize and request that the Patent Office officials in the United States and in any and all foreign countries to issue any and all Letters Patent when granted, solely to the Assignee(s), for its sole use, and that of its successors, assigns, and legal representatives.

I/We will provide my/our cooperation to enable the Assignee to enjoy the foregoing right, title, and interest to the fullest extent. Upon request at the expense of the Assignee, I/we agree to execute all papers, take all rightful oaths, testify in all legal proceedings including patent prosecution actions and infringement actions, and do all other such acts which may be necessary, desirable, or convenient for securing and maintaining patents on the foregoing invention or for perfecting title thereto in the Assignee.

I/We certify that I/we have the full right to convey the above rights.

As a below-named Inventor, I hereby declare that the above-identified application was made or authorized to be made by me, and that I am the original Inventor or an original joint Inventor of a claimed invention in the application.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

| Date: | Signature: | | Assignor/Inventor |
|------------------|------------|-----------------------------|-------------------|
| | | , Jingping XU | |
| Date: | Signature: | singping At | Assignor/Inventor |
| | | , Balasundar Iyyayu RAJU | |
| Date: 08/21/20/8 | Signature: | Datasuluar 1974 KAJU | Assignor/Inventor |
| | | Shougang WANG | |

PATENT REEL: 051874 FRAME: 0820

RECORDED: 02/20/2020