

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
Stylesheet Version v1.2

EPAS ID: PAT4165695

|   |                                  |
|---|----------------------------------|
| <b>SUBMISSION TYPE:</b>   | NEW ASSIGNMENT                   |
| <b>NATURE OF CONVEYANCE:</b>  | ASSIGNMENT                       |
| <b>CONVEYING PARTY DATA</b>   |                                  |
| <b>Name</b>   | <b>Execution Date</b>            |
| AKIKO YUZAWA  | 11/10/2016                       |
| HIDEAKI FUKUZAWA  | 11/13/2016                       |
| KEI MASUNISHI   | 11/10/2016                       |
| YOSHIHIRO HIGASHI   | 11/10/2016                       |
| MICHIKO HARA  | 11/10/2016                       |
| YOSHIHIKO FUJI  | 11/10/2016                       |
| <b>RECEIVING PARTY DATA</b>   |                                  |
| <b>Name:</b>  | KABUSHIKI KAISHA TOSHIBA         |
| <b>Street Address:</b>  | 1-1, SHIBAURA 1-CHOME, MINATO-KU |
| <b>City:</b>  | TOKYO                            |
| <b>State/Country:</b>   | JAPAN                            |
| <b>PROPERTY NUMBERS Total: 1</b>  |                                  |
| <b>Property Type</b>  | <b>Number</b>                    |
| Application Number:   | 15246964                         |
| <b>CORRESPONDENCE DATA</b>  |                                  |
| <b>Fax Number:</b>  | (202)408-4400                    |
| <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>   | 2024084000                       |
| <b>Email:</b>   | bernie.carson@finnegan.com       |
| <b>Correspondent Name:</b>  | FINNEGAN                         |
| <b>Address Line 1:</b>  | 901 NEW YORK AVENUE, NW          |
| <b>Address Line 4:</b>  | WASHINGTON, D.C. 20001           |
| <b>ATTORNEY DOCKET NUMBER:</b>  | 09814.0310                       |
| <b>NAME OF SUBMITTER:</b>   | B.CARSON                         |
| <b>SIGNATURE:</b>   | /B.CARSON/                       |
| <b>DATE SIGNED:</b>   | 12/01/2016                       |
| This document serves as an Oath/Declaration (37 CFR 1.63).  |                                  |
| <b>Total Attachments: 6</b>   |                                  |

source=ASSIGNMENT#page1.tif  
source=ASSIGNMENT#page2.tif  
source=ASSIGNMENT#page3.tif  
source=ASSIGNMENT#page4.tif  
source=ASSIGNMENT#page5.tif  
source=ASSIGNMENT#page6.tif

13G0008845-US-A

SOLE JOINT INVENTION  
(U.S. Rights Only)  
Attorney Docket No.

**ASSIGNMENT AND DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION**

WHEREAS I/We, the below named inventor(s), (hereinafter referred to as Assignor(s)), of a claimed invention in an application for United States Letters Patent entitled:

**SENSOR AND ELECTRONIC DEVICE**

filed herewith or on August 25, 2016 as United States Application No. 15/246,964 (Confirmation No. \_\_\_\_\_) attached hereto and/or PCT International Application No. \_\_\_\_\_; and

WHEREAS, Kabushiki Kaisha Toshiba  
a corporation of JAPAN

whose principal office address is 1-1, Shiba-ura 1-chome, Minato-ku, Tokyo, JAPAN

(hereinafter referred to as Assignee), is desirous of securing the entire right, title, and interest in and to this invention, the application for United States Letters Patent on this invention and the Letters Patent to be issued upon this application;

NOW THEREFORE, be it known that, for good and valuable consideration the receipt of which from Assignee is hereby acknowledged, I/WE, as Assignor(s), have sold, assigned, transferred, and set over, and do hereby sell, assign, transfer, and set over unto the Assignee, its lawful successors and assigns, my/our entire right, title, and interest in and to this invention and this application, and all divisions, and continuations thereof, and all Letters Patent of the United States which may be granted thereon, and all reissues thereof; and I/WE hereby authorize and request the Director of the United States Patent and Trademark Office to issue all Letters Patent for this invention to Assignee, its successors and assigns, in accordance with the terms of this Assignment;

AND, I/WE HEREBY further covenant and agree that I/We will, without further consideration, communicate with Assignee, its successors and assigns, any facts known to me/us respecting this invention and testify in any legal proceeding, sign all lawful papers when called upon to do so, execute and deliver all papers that may be necessary or desirable to perfect the title to this invention in said Assignee, its successors and assigns, execute all divisional, continuation, and reissue applications, make all rightful oaths and generally do everything possible to aid Assignee, its successors and assigns, to obtain and enforce proper patent protection for this invention in the United States, it being understood that any expenses incident to the execution of such papers shall be borne by the Assignee, its successors and assigns.

AND, I/WE HEREBY authorize and request that the attorneys having Power of Attorney in this application, insert here in parentheses (Application No. \_\_\_\_\_, filed \_\_\_\_\_), the filing date and application number of said application when known.

As a named inventor below, I hereby declare that: (1) This declaration is directed to the above-identified application; (2) the above-identified application was made or authorized to be made by me; (3) my residence and mailing address are as stated below next to my name; and (4) I believe I am an original inventor or an original joint inventor of a claimed invention in the application. I hereby acknowledge that any willful false statements made in this declaration are punishable by fine or imprisonment of not more than five (5) years, or both, under section 1001 of Title 18 of the United States Code.

As a below named inventor, I have reviewed and understand the contents of the application, including the claims, and am aware of the duty to disclose to the USPTO all information known to me to be material to patentability as defined in 37 C.F.R. § 1.55.

15/246,964 filed August 25, 2016

13000000945-US-A

SOLE/JOINT INVENTION  
(U.S. Rights Only)  
Attorney Docket No.

Authorization To Permit Access To Application by Participating Offices:

If checked, the undersigned hereby grants the USPTO authority to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the World Intellectual Property Office (WIPO), and any other intellectual property offices in which a foreign application claiming priority to the above-identified patent application is filed access to the above-identified patent application. See 37 CFR 1.14(c) and (d). This box should not be checked if the Applicant does not wish the EPO, JPO, KIPO, WIPO, or other intellectual property offices in which a foreign application claiming priority to the above-identified application is filed to have access to the above-identified patent application.

In accordance with 37 CFR 1.14(h)(3), access will be provided to a copy of the above-identified patent application with respect to: 1) the above-identified patent application-as-filed; 2) any foreign application in which the above-identified patent application claims priority under 35 U.S.C. 119(a); (d) if a copy of the foreign application that satisfies the certified copy requirement of 37 CFR 1.53 has been filed in the above-identified patent application; and 3) any U.S. application-as-filed from which benefit is sought in the above-identified patent application.

In accordance with 37 CFR 1.14(e), access may be provided to information concerning the date of filing the Authorization to Permit Access to Application by Participating Offices.

|  |  |                                      |
|--|--|--------------------------------------|
| 1. FULL NAME OF SOLE OR FIRST ASSIGNOR<br><b>Akiko YUZAWA</b>  | ASSIGNOR'S SIGNATURE<br><i>Akiko Yuzawa</i>      | DATE<br><i>Nov. 10, 2016</i>         |
| MAILING ADDRESS<br>c/o IP Div. Toshiba Corp. (K. K. TOSHIBA), 1-1, Shibaura 1-chome, Minato-ku, Tokyo, Japan |  | RESIDENCE<br>Kawasaki Kanagawa JAPAN |
| 2. FULL NAME OF SECOND ASSIGNOR<br><b>Hideaki FUKUZAWA</b>   | ASSIGNOR'S SIGNATURE                             | DATE                                 |
| MAILING ADDRESS<br>c/o IP Div. Toshiba Corp. (K. K. TOSHIBA), 1-1, Shibaura 1-chome, Minato-ku, Tokyo, Japan |  | RESIDENCE<br>Kawasaki Kanagawa JAPAN |
| 3. FULL NAME OF THIRD ASSIGNOR<br><b>Kei MASUNISHI</b>   | ASSIGNOR'S SIGNATURE<br><i>Kei Masunishi</i>     | DATE<br><i>Nov. 10, 2016</i>         |
| MAILING ADDRESS<br>c/o IP Div. Toshiba Corp. (K. K. TOSHIBA), 1-1, Shibaura 1-chome, Minato-ku, Tokyo, Japan |  | RESIDENCE<br>Kawasaki Kanagawa JAPAN |
| 4. FULL NAME OF FOURTH ASSIGNOR<br><b>Yoshihiro HIGASHI</b>  | ASSIGNOR'S SIGNATURE<br><i>Yoshihiro HIGASHI</i> | DATE<br><i>Nov. 10, 2016</i>         |
| MAILING ADDRESS<br>c/o IP Div. Toshiba Corp. (K. K. TOSHIBA), 1-1, Shibaura 1-chome, Minato-ku, Tokyo, Japan |  | RESIDENCE<br>Komatsu Ishikawa JAPAN  |
| 5. FULL NAME OF FIFTH ASSIGNOR<br><b>Michiko HARA</b>  | ASSIGNOR'S SIGNATURE<br><i>Michiko Hara</i>      | DATE<br><i>Nov. 10, 2016</i>         |
| MAILING ADDRESS<br>c/o IP Div. Toshiba Corp. (K. K. TOSHIBA), 1-1, Shibaura 1-chome, Minato-ku, Tokyo, Japan |  | RESIDENCE<br>Yokohama Kanagawa JAPAN |

13G9009845-US-A

SOLEJOINT INVENTION  
(U.S. Rights Only)  
Attorney Docket No.

|  |  |                       |
|--|--|-----------------------|
| 8. FULL NAME OF SOLE OR SIXTH ASSIGNOR<br>Yoshihiko FUJI   | ASSIGNOR'S SIGNATURE<br>Yoshihiko Fuji | DATE<br>Nov. 10, 2016 |
| MAILING ADDRESS<br>c/o IP Div. Toshiba Corp. (K. K. TOSHIBA), 1-1, Shibaura 1-chome, Minato-ku, Tokyo, Japan | RESIDENCE<br>Kawasaki Kanagawa JAPAN   |                       |

13G5008845-US-A

SOLE/JOINT INVENTION  
(U.S. Rights Only)  
Attorney Docket No.

**ASSIGNMENT AND DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION**

WHEREAS I/We, the below named inventor(s), (hereinafter referred to as Assignor(s)), of a claimed invention in an application for United States Letters Patent entitled:

**SENSOR AND ELECTRONIC DEVICE**

filed herewith or on August 28, 2016 as United States Application No. 15/248,954 (Confirmation No. \_\_\_\_\_) attached hereto and/or PCT International Application No. \_\_\_\_\_; and

WHEREAS, Kabushiki Kaisha Toshiba  
a corporation of JAPAN

whose post office address is 1-1, Shibaura 1-chome, Minato-ku, Tokyo, JAPAN

(hereinafter referred to as Assignee), is desirous of securing the entire right, title, and interest in and to this invention, the application for United States Letters Patent on this invention and the Letters Patent to be issued upon this application;

NOW THEREFORE, be it known that, for good and valuable consideration the receipt of which from Assignee is hereby acknowledged, I/WE, as Assignor(s), have sold, assigned, transferred, and set over, and do hereby sell, assign, transfer, and set over unto the Assignee, its lawful successors and assigns, my/our entire right, title, and interest in and to this invention and this application, and all divisions, and continuations thereof, and all Letters Patent of the United States which may be granted thereon, and all reissues thereof, and I/WE hereby authorize and request the Director of the United States Patent and Trademark Office to issue all Letters Patent for this invention to Assignee, its successors and assigns, in accordance with the terms of this Assignment.

AND, I/WE HEREBY further covenant and agree that I/We will, without further consideration, communicate with Assignee, its successors and assigns; any facts known to me/us respecting this invention and testify in any legal proceeding, sign all lawful papers when called upon to do so, execute and deliver all papers that may be necessary or desirable to perfect the title to this invention in said Assignee, its successors and assigns, execute all divisional, continuation, and reissue applications, make all rightful oaths and generally do everything possible to aid Assignee, its successors and assigns, to obtain and enforce proper patent protection for this invention in the United States, it being understood that any expense incident to the execution of such papers shall be borne by the Assignee, its successors and assigns.

AND, I/WE HEREBY authorize and request that the attorneys having Power of Attorney in this application, insert here in parentheses (Application No. \_\_\_\_\_, filed \_\_\_\_\_), the filing date and application number of said application when known.

As a named inventor below, I hereby declare that: (1) This declaration is directed to the above-identified application; (2) the above-identified application was made or authorized to be made by me; (3) my residence and mailing address are as stated below next to my name; and (4) I believe I am an original inventor or an original joint inventor of a claimed invention in the application. I hereby acknowledge that any willful false statements made in this declaration are punishable by fine or imprisonment of not more than five (5) years, or both, under section 1001 of Title 18 of the United States Code.

As a below named inventor, I have reviewed and understand the contents of this application, including the claims, and am aware of the duty to disclose to the USPTO all information known to me to be material to patentability as defined in 37C.F.R. § 1.56.

Authorization To Permit Access To Application by Participating Offices:

I checked, the undersigned hereby grants the USPTO authority to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the World Intellectual Property Office (WIPO), and any other intellectual property offices in which a foreign application claiming priority to the above-identified patent application is filed access to the above-identified patent application. See 37 CFR 1.14(g) and (h). This box should not be checked if the Applicant does not wish the EPO, JPO, KIPO, WIPO, or other intellectual property office in which a foreign application claiming priority to the above-identified application is filed to have access to the above-identified patent application.

In accordance with 37 CFR 1.14(h)(3), access will be provided to a copy of the above-identified patent application with respect to: 1) the above-identified patent application as filed; 2) any foreign application in which the above-identified patent application claims priority under 35 U.S.C. 119(a); 3) if a copy of the foreign application that satisfies the certified copy requirement of 37 CFR 1.55 has been filed in the above-identified patent application; and 3) any U.S. application as filed from which benefit is sought in the above-identified patent application.

In accordance with 37 CFR 1.14(g), access may be provided to information concerning the date of filing the Authorization to Permit Access to Application by Participating Offices.

| 1. FULL NAME OF SOLE OR FIRST ASSIGNOR  | ASSIGNOR'S SIGNATURE           | DATE                    |
|---|--------------------------------|-------------------------|
| <b>Akiko YUZAWA</b>   |                                |                         |
| MAILING ADDRESS   |                                | RESIDENCE               |
| c/o IP Div. Toshiba Corp. (K. K. TOSHIBA), 1-1, Shibaure 1-chome, Minato-ku, Tokyo, Japan |                                | Kawasaki Kanagawa JAPAN |
| 2. FULL NAME OF SECOND ASSIGNOR   | ASSIGNOR'S SIGNATURE           | DATE                    |
| <b>Hideaki FURUZAWA</b>   | <i>[Handwritten Signature]</i> | <i>Nov. 13, 2016</i>    |
| MAILING ADDRESS   |                                | RESIDENCE               |
| c/o IP Div. Toshiba Corp. (K. K. TOSHIBA), 1-1, Shibaure 1-chome, Minato-ku, Tokyo, Japan |                                | Kawasaki Kanagawa JAPAN |
| 3. FULL NAME OF THIRD ASSIGNOR  | ASSIGNOR'S SIGNATURE           | DATE                    |
| <b>Kai MASUNISHI</b>  |                                |                         |
| MAILING ADDRESS   |                                | RESIDENCE               |
| c/o IP Div. Toshiba Corp. (K. K. TOSHIBA), 1-1, Shibaure 1-chome, Minato-ku, Tokyo, Japan |                                | Kawasaki Kanagawa JAPAN |
| 4. FULL NAME OF FOURTH ASSIGNOR   | ASSIGNOR'S SIGNATURE           | DATE                    |
| <b>Yoshihiro HIGASHI</b>  |                                |                         |
| MAILING ADDRESS   |                                | RESIDENCE               |
| c/o IP Div. Toshiba Corp. (K. K. TOSHIBA), 1-1, Shibaure 1-chome, Minato-ku, Tokyo, Japan |                                | Kornatsu Ishikawa JAPAN |
| 5. FULL NAME OF FIFTH ASSIGNOR  | ASSIGNOR'S SIGNATURE           | DATE                    |
| <b>Michiko HARA</b>   |                                |                         |
| MAILING ADDRESS   |                                | RESIDENCE               |
| c/o IP Div. Toshiba Corp. (K. K. TOSHIBA), 1-1, Shibaure 1-chome, Minato-ku, Tokyo, Japan |                                | Yokohama Kanagawa JAPAN |

13090086845-US-A

SOLE/JOINT INVENTION  
(U.S. Rights Only)  
Attorney Docket No.

|   |                         |                      |
|---|-------------------------|----------------------|
| 8. FULL NAME OF SOLE OR SIXTH ASSIGNOR  | ASSIGNOR'S SIGNATURE    | DATE                 |
| Yoshiniko FUJI  | <i>Yoshiniko Fuji</i>   | <i>Nov. 10, 2016</i> |
| MAILING ADDRESS   | RESIDENCE               |                      |
| c/o IP Div. Toshiba Corp. (K. K. TOSHIBA), 1-1, Shibaura 1-chama, Minato-ku, Tokyo, Japan | Kawasaki Kanagawa JAPAN |                      |