

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
Stylesheet Version v1.2

EPAS ID: PAT3078106

|   |                                  |
|---|----------------------------------|
| <b>SUBMISSION TYPE:</b>   | NEW ASSIGNMENT                   |
| <b>NATURE OF CONVEYANCE:</b>  | ASSIGNMENT                       |
| <b>CONVEYING PARTY DATA</b>   |                                  |
|   |                                  |
| <b>Name</b>   | <b>Execution Date</b>            |
| HISAO MIYAZAKI  | 10/14/2014                       |
| TADASHI SAKAI   | 10/15/2014                       |
| MASAYUKI KATAGIRI   | 10/14/2014                       |
| YUICHI YAMAZAKI   | 10/14/2014                       |
| NAOSHI SAKUMA   | 10/15/2014                       |
| MARIKO SUZUKI   | 10/15/2014                       |
| <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>Postal Code:</b>   | 105-8001                         |
| <b>PROPERTY NUMBERS Total: 1</b>  |                                  |
|   |                                  |
| <b>Property Type</b>  | <b>Number</b>                    |
| <b>Application Number:</b>  | 14202162                         |
| <b>CORRESPONDENCE DATA</b>  |                                  |
| <b>Fax Number:</b>  | (703)413-2220                    |
| <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>   | (703) 413-3000                   |
| <b>Email:</b>   | mkassaye@oblon.com               |
| <b>Correspondent Name:</b>  | OBLON, SPIVAK, ET AL.            |
| <b>Address Line 1:</b>  | 1940 DUKE STREET                 |
| <b>Address Line 4:</b>  | ALEXANDRIA, VIRGINIA 22314       |
| <b>ATTORNEY DOCKET NUMBER:</b>  | 431403US20RDASSIGNMENT           |
| <b>NAME OF SUBMITTER:</b>   | MESFIN KASSAYE                   |
| <b>SIGNATURE:</b>   | /Mesfin Kassaye/                 |
| <b>DATE SIGNED:</b>   | 10/23/2014                       |
| This document serves as an Oath/Declaration (37 CFR 1.63).  |                                  |
| <b>Total Attachments: 6</b>   |                                  |

PATENT

source=431403US20RDASSIGNMENT#page1.tif

source=431403US20RDASSIGNMENT#page2.tif

source=431403US20RDASSIGNMENT#page3.tif

source=431403US20RDASSIGNMENT#page4.tif

source=431403US20RDASSIGNMENT#page5.tif

source=431403US20RDASSIGNMENT#page6.tif

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

|   |                            |
|---|----------------------------|
| <b>Title of Invention</b>   | GRAPHENE WIRING            |
| <p>As the below named inventor, I hereby declare that:</p> <p>This declaration <input type="checkbox"/> The attached application, or<br/> is directed to: <input checked="" type="checkbox"/> United States application or PCT international application number <u>14/202,162</u><br/> filed on <u>March 10, 2014</u></p> <p>The above-identified application was made or authorized to be made by me.</p> <p>I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.</p> <p>WHEREAS, <u>Kabushiki Kaisha Toshiba</u><br/> (hereinafter referred to as "ASSIGNEE") having places of business at: <u>1-1 Shibaura 1-chome, Minato-ku, Tokyo 105-8001 Japan</u>, is desirous of acquiring the entire right, title and interest in and to said invention and in and to any Letters Patent that may be granted therefore in the United States and its territorial possessions and in any and all foreign countries;</p> <p>NOW, THEREFORE, in consideration of the sum of FIVE DOLLARS (\$5.00), the receipt whereof is hereby acknowledged, and for other good and valuable consideration, I, by these presents do sell, assign and transfer unto said ASSIGNEE, the full and exclusive right to the said invention in the United States and its territorial possessions and in all foreign countries (including the right to claim priority under the terms of the International Convention and other relevant International Treaties and Arrangements from the aforesaid application) and the entire right, title and interest in and to any and all Letters Patent which may be granted therefor in the United States and its territorial possessions and in any and all foreign countries and in and to any and all divisions, reissues, continuations, substitutions and renewals thereof.</p> <p>I hereby authorize and request the Patent Office Officials in the United States and its territorial possessions and any and all foreign countries to issue any and all of said Letters Patent, when granted, to said ASSIGNEE as the assignee of my entire right, title and interest in and to the same, for the sole use and behoof of said ASSIGNEE, its (his) successors and assigns, to the full end of the term for which said Letters Patent may be granted, as fully and entirely as the same would have been held by me had this Assignment and sale not been made.</p> <p>Further, I agree that I will communicate to said ASSIGNEE or its (his) representatives any facts known to me respecting said invention, and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuation, substitute, renewal and reissue applications, execute all necessary assignment papers to cause any and all of said Letters Patent to be issued to said ASSIGNEE, make all rightful oaths, and, generally do everything possible to aid said ASSIGNEE, its (his) successors and assigns, to obtain and enforce proper protection for said invention in the United States and its territorial possessions and in any and all foreign countries.</p> <p>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.</p> |                            |
| <b>LEGAL NAME OF INVENTOR</b>   |                            |
| Inventor: <u>Hisao MIYAZAKI</u>   | Date: <u>Oct. 14, 2014</u> |
| Signature: <u>Hisao Miyazaki</u>  |                            |

OBLON, SPIVAK, McCLELLAND, MAIER & NEUSTADT, L.L.P.  
ATTORNEYS AT LAW  
1940 DUKE STREET  
ALEXANDRIA, VIRGINIA 22314

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

|  |                            |
|--|----------------------------|
| <b>Title of Invention</b>  | GRAPHENE WIRING            |
| <p>As the below named inventor, I hereby declare that:</p> <p>This declaration <input type="checkbox"/> The attached application, or<br/> is directed to: <input checked="" type="checkbox"/> United States application or PCT international application number <u>14/202,162</u><br/> filed on <u>March 10, 2014</u>.</p> <p>The above-identified application was made or authorized to be made by me.</p> <p>I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.</p> <p>WHEREAS, <u>Kabushiki Kaisha Toshiba</u><br/> (hereinafter referred to as "ASSIGNEE") having places of business at: <u>1-1 Shibaura 1-chome, Minato-ku, Tokyo 105-8001 Japan</u>, is desirous of acquiring the entire right, title and interest in and to said invention and in and to any Letters Patent that may be granted therefore in the United States and its territorial possessions and in any and all foreign countries;</p> <p>NOW, THEREFORE, in consideration of the sum of FIVE DOLLARS (\$5.00), the receipt whereof is hereby acknowledged, and for other good and valuable consideration, I, by these presents do sell, assign and transfer unto said ASSIGNEE, the full and exclusive right to the said invention in the United States and its territorial possessions and in all foreign countries (including the right to claim priority under the terms of the International Convention and other relevant International Treaties and Arrangements from the aforesaid application) and the entire right, title and interest in and to any and all Letters Patent which may be granted therefor in the United States and its territorial possessions and in any and all foreign countries and in and to any and all divisions, reissues, continuations, substitutions and renewals thereof.</p> <p>I hereby authorize and request the Patent Office Officials in the United States and its territorial possessions and any and all foreign countries to issue any and all of said Letters Patent, when granted, to said ASSIGNEE as the assignee of my entire right, title and interest in and to the same, for the sole use and behoof of said ASSIGNEE, its (his) successors and assigns, to the full end of the term for which said Letters Patent may be granted, as fully and entirely as the same would have been held by me had this Assignment and sale not been made.</p> <p>Further, I agree that I will communicate to said ASSIGNEE or its (his) representatives any facts known to me respecting said invention, and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuation, substitute, renewal and reissue applications, execute all necessary assignment papers to cause any and all of said Letters Patent to be issued to said ASSIGNEE, make all rightful oaths, and, generally do everything possible to aid said ASSIGNEE, its (his) successors and assigns, to obtain and enforce proper protection for said invention in the United States and its territorial possessions and in any and all foreign countries.</p> <p>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.</p> |                            |
| <b>LEGAL NAME OF INVENTOR</b>  |                            |
| Inventor: <u>Tadashi SAKAI</u>   | Date: <u>Oct. 15, 2014</u> |
| Signature: <u>Tadashi Sakai</u>  |                            |

OBLON, SPIVAK, McCLELLAND, MAIER & NEUSTADT, L.L.P.  
ATTORNEYS AT LAW  
1940 DUKE STREET  
ALEXANDRIA, VIRGINIA 22314

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

|  |                            |
|--|----------------------------|
| <b>Title of Invention</b>  | GRAPHENE WIRING            |
| <p>As the below named inventor, I hereby declare that:</p> <p>This declaration <input type="checkbox"/> The attached application, or<br/> is directed to: <input checked="" type="checkbox"/> United States application or PCT international application number <u>14/202,162</u><br/> filed on <u>March 10, 2014</u>.</p> <p>The above-identified application was made or authorized to be made by me.</p> <p>I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.</p> <p>WHEREAS, <u>Kabushiki Kaisha Toshiba</u><br/> (hereinafter referred to as "ASSIGNEE") having places of business at: <u>1-1 Shibaura 1-chome, Minato-ku, Tokyo 105-8001 Japan</u>, is desirous of acquiring the entire right, title and interest in and to said invention and in and to any Letters Patent that may be granted therefore in the United States and its territorial possessions and in any and all foreign countries;</p> <p>NOW, THEREFORE, in consideration of the sum of FIVE DOLLARS (\$5.00), the receipt whereof is hereby acknowledged, and for other good and valuable consideration, I, by these presents do sell, assign and transfer unto said ASSIGNEE, the full and exclusive right to the said invention in the United States and its territorial possessions and in all foreign countries (including the right to claim priority under the terms of the International Convention and other relevant International Treaties and Arrangements from the aforesaid application) and the entire right, title and interest in and to any and all Letters Patent which may be granted therefor in the United States and its territorial possessions and in any and all foreign countries and in and to any and all divisions, reissues, continuations, substitutions and renewals thereof.</p> <p>I hereby authorize and request the Patent Office Officials in the United States and its territorial possessions and any and all foreign countries to issue any and all of said Letters Patent, when granted, to said ASSIGNEE as the assignee of my entire right, title and interest in and to the same, for the sole use and behoof of said ASSIGNEE, its (his) successors and assigns, to the full end of the term for which said Letters Patent may be granted, as fully and entirely as the same would have been held by me had this Assignment and sale not been made.</p> <p>Further, I agree that I will communicate to said ASSIGNEE or its (his) representatives any facts known to me respecting said invention, and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuation, substitute, renewal and reissue applications, execute all necessary assignment papers to cause any and all of said Letters Patent to be issued to said ASSIGNEE, make all rightful oaths, and, generally do everything possible to aid said ASSIGNEE, its (his) successors and assigns, to obtain and enforce proper protection for said invention in the United States and its territorial possessions and in any and all foreign countries.</p> <p>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.</p> |                            |
| <b>LEGAL NAME OF INVENTOR</b>  |                            |
| Inventor: <u>Masayuki KATAGIRI</u>   | Date: <u>Oct. 14, 2014</u> |
| Signature: <u>Masayuki Katagiri</u>  |                            |

**OBLON, SPIVAK, McCLELLAND, MAIER & NEUSTADT, L.L.P.**  
ATTORNEYS AT LAW  
1940 DUKE STREET  
ALEXANDRIA, VIRGINIA 22314

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

|  |                            |
|--|----------------------------|
| <b>Title of Invention</b>  | GRAPHENE WIRING            |
| <p>As the below named inventor, I hereby declare that:</p> <p>This declaration <input type="checkbox"/> The attached application, or<br/> is directed to: <input checked="" type="checkbox"/> United States application or PCT international application number <u>14/202,162</u><br/> filed on <u>March 10, 2014</u>.</p> <p>The above-identified application was made or authorized to be made by me.</p> <p>I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.</p> <p>WHEREAS, <u>Kabushiki Kaisha Toshiba</u><br/> (hereinafter referred to as "ASSIGNEE") having places of business at: <u>1-1 Shibaura 1-chome, Minato-ku, Tokyo 105-8001 Japan</u>, is desirous of acquiring the entire right, title and interest in and to said invention and in and to any Letters Patent that may be granted therefore in the United States and its territorial possessions and in any and all foreign countries;</p> <p>NOW, THEREFORE, in consideration of the sum of FIVE DOLLARS (\$5.00), the receipt whereof is hereby acknowledged, and for other good and valuable consideration, I, by these presents do sell, assign and transfer unto said ASSIGNEE, the full and exclusive right to the said invention in the United States and its territorial possessions and in all foreign countries (including the right to claim priority under the terms of the International Convention and other relevant International Treaties and Arrangements from the aforesaid application) and the entire right, title and interest in and to any and all Letters Patent which may be granted therefor in the United States and its territorial possessions and in any and all foreign countries and in and to any and all divisions, reissues, continuations, substitutions and renewals thereof.</p> <p>I hereby authorize and request the Patent Office Officials in the United States and its territorial possessions and any and all foreign countries to issue any and all of said Letters Patent, when granted, to said ASSIGNEE as the assignee of my entire right, title and interest in and to the same, for the sole use and behoof of said ASSIGNEE, its (his) successors and assigns, to the full end of the term for which said Letters Patent may be granted, as fully and entirely as the same would have been held by me had this Assignment and sale not been made.</p> <p>Further, I agree that I will communicate to said ASSIGNEE or its (his) representatives any facts known to me respecting said invention, and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuation, substitute, renewal and reissue applications, execute all necessary assignment papers to cause any and all of said Letters Patent to be issued to said ASSIGNEE, make all rightful oaths, and, generally do everything possible to aid said ASSIGNEE, its (his) successors and assigns, to obtain and enforce proper protection for said invention in the United States and its territorial possessions and in any and all foreign countries.</p> <p>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.</p> |                            |
| <b>LEGAL NAME OF INVENTOR</b>  |                            |
| Inventor: <u>Yuichi YAMAZAKI</u>   | Date: <u>Oct. 19, 2014</u> |
| Signature: <u><i>Yuichi Yamazaki</i></u>   |                            |

OBLON, SPIVAK, McCLELLAND, MAIER & NEUSTADT, L.L.P.  
ATTORNEYS AT LAW  
1940 DUKE STREET  
ALEXANDRIA, VIRGINIA 22314

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

|   |                            |
|---|----------------------------|
| <b>Title of Invention</b>   | GRAPHENE WIRING            |
| <p>As the below named inventor, I hereby declare that:</p> <p>This declaration <input type="checkbox"/> The attached application, or<br/> is directed to: <input checked="" type="checkbox"/> United States application or PCT international application number <u>14/202,162</u><br/> filed on <u>March 10, 2014</u></p> <p>The above-identified application was made or authorized to be made by me.</p> <p>I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.</p> <p>WHEREAS, <u>Kabushiki Kaisha Toshiba</u><br/> (hereinafter referred to as "ASSIGNEE") having places of business at: <u>1-1 Shibaura 1-chome, Minato-ku, Tokyo 105-8001 Japan</u>, is desirous of acquiring the entire right, title and interest in and to said invention and in and to any Letters Patent that may be granted therefore in the United States and its territorial possessions and in any and all foreign countries;</p> <p>NOW, THEREFORE, in consideration of the sum of FIVE DOLLARS (\$5.00), the receipt whereof is hereby acknowledged, and for other good and valuable consideration, I, by these presents do sell, assign and transfer unto said ASSIGNEE, the full and exclusive right to the said invention in the United States and its territorial possessions and in all foreign countries (including the right to claim priority under the terms of the International Convention and other relevant International Treaties and Arrangements from the aforesaid application) and the entire right, title and interest in and to any and all Letters Patent which may be granted therefor in the United States and its territorial possessions and in any and all foreign countries and in and to any and all divisions, reissues, continuations, substitutions and renewals thereof.</p> <p>I hereby authorize and request the Patent Office Officials in the United States and its territorial possessions and any and all foreign countries to issue any and all of said Letters Patent, when granted, to said ASSIGNEE as the assignee of my entire right, title and interest in and to the same, for the sole use and behoof of said ASSIGNEE, its (his) successors and assigns, to the full end of the term for which said Letters Patent may be granted, as fully and entirely as the same would have been held by me had this Assignment and sale not been made.</p> <p>Further, I agree that I will communicate to said ASSIGNEE or its (his) representatives any facts known to me respecting said invention, and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuation, substitute, renewal and reissue applications, execute all necessary assignment papers to cause any and all of said Letters Patent to be issued to said ASSIGNEE, make all rightful oaths, and, generally do everything possible to aid said ASSIGNEE, its (his) successors and assigns, to obtain and enforce proper protection for said invention in the United States and its territorial possessions and in any and all foreign countries.</p> <p>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.</p> |                            |
| <b>LEGAL NAME OF INVENTOR</b>   |                            |
| Inventor: <u>Naoshi SAKUMA</u>  | Date: <u>Oct. 15, 2014</u> |
| Signature: <u>Naoshi Sakuma</u>   |                            |

OBLON, SPIVAK, McCLELLAND, MAIER & NEUSTADT, L.L.P.  
ATTORNEYS AT LAW  
1940 DUKE STREET  
ALEXANDRIA, VIRGINIA 22314

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

|  |                            |
|--|----------------------------|
| <b>Title of Invention</b>  | GRAPHENE WIRING            |
| <p>As the below named inventor, I hereby declare that:</p> <p>This declaration <input type="checkbox"/> The attached application, or<br/> is directed to: <input checked="" type="checkbox"/> United States application or PCT international application number <u>14/202,162</u><br/> filed on <u>March 10, 2014</u>.</p> <p>The above-identified application was made or authorized to be made by me.</p> <p>I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.</p> <p>WHEREAS, <u>Kabushiki Kaisha Toshiba</u><br/> (hereinafter referred to as "ASSIGNEE") having places of business at: <u>1-1 Shibaura 1-chome, Minato-ku, Tokyo 105-8001 Japan</u>, is desirous of acquiring the entire right, title and interest in and to said invention and in and to any Letters Patent that may be granted therefore in the United States and its territorial possessions and in any and all foreign countries;</p> <p>NOW, THEREFORE, in consideration of the sum of FIVE DOLLARS (\$5.00), the receipt whereof is hereby acknowledged, and for other good and valuable consideration, I, by these presents do sell, assign and transfer unto said ASSIGNEE, the full and exclusive right to the said invention in the United States and its territorial possessions and in all foreign countries (including the right to claim priority under the terms of the International Convention and other relevant International Treaties and Arrangements from the aforesaid application) and the entire right, title and interest in and to any and all Letters Patent which may be granted therefor in the United States and its territorial possessions and in any and all foreign countries and in and to any and all divisions, reissues, continuations, substitutions and renewals thereof.</p> <p>I hereby authorize and request the Patent Office Officials in the United States and its territorial possessions and any and all foreign countries to issue any and all of said Letters Patent, when granted, to said ASSIGNEE as the assignee of my entire right, title and interest in and to the same, for the sole use and behoof of said ASSIGNEE, its (his) successors and assigns, to the full end of the term for which said Letters Patent may be granted, as fully and entirely as the same would have been held by me had this Assignment and sale not been made.</p> <p>Further, I agree that I will communicate to said ASSIGNEE or its (his) representatives any facts known to me respecting said invention, and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuation, substitute, renewal and reissue applications, execute all necessary assignment papers to cause any and all of said Letters Patent to be issued to said ASSIGNEE, make all rightful oaths, and, generally do everything possible to aid said ASSIGNEE, its (his) successors and assigns, to obtain and enforce proper protection for said invention in the United States and its territorial possessions and in any and all foreign countries.</p> <p>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.</p> |                            |
| <b>LEGAL NAME OF INVENTOR</b>  |                            |
| Inventor: <u>Mariko SUZUKI</u>   | Date: <u>Oct. 15, 2014</u> |
| Signature: <u>Mariko Suzuki</u>  |                            |

**OBLON, SPIVAK, McCLELLAND, MAIER & NEUSTADT, L.L.P.**  
ATTORNEYS AT LAW  
1940 DUKE STREET  
ALEXANDRIA, VIRGINIA 22314