504678541 12/08/2017 PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4725263

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
HISAO MIYAZAKI	10/31/2017
TADASHI SAKAI	10/31/2017
YASUTAKA NISHIDA	10/31/2017
TAKASHI YOSHIDA	11/01/2017
YUICHI YAMAZAKI	10/31/2017
MASAYUKI KATAGIRI	11/02/2017
NAOSHI SAKUMA	11/01/2017

RECEIVING PARTY DATA

Name:	KABUSHIKI KAISHA TOSHIBA
Street Address:	1-1, Shibaura 1-chome, Minato-Ku
City:	Токуо
State/Country:	Japan
Postal Code:	105-8001

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15691257

CORRESPONDENCE DATA

Fax Number:(703)413-2220Correspondence 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:(703) 413-3000

FIIONE.	(703) 413-3000
Email:	mvukovic@oblon.com
Correspondent Name:	OBLON, ET AL.
Address Line 1:	1940 DUKE STREET
Address Line 4:	ALEXANDRIA, VIRGINIA 22314

ATTORNEY DOCKET NUMBER:	506938US
NAME OF SUBMITTER:	MARA VUKOVIC
SIGNATURE:	/Mara Vukovic/
DATE SIGNED:	12/08/2017

	This document serves as an Oath/Declaration (37 CFR 1.63).
Total Attachments: 7	
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Title of	GRAPHENE WIRING STRUCTURE, SEMICONDUCTOR DEVICE, METHOD
Invention	FOR MANUFACTURING GRAPHENE WIRING STRUCTURE, AND METHOD
	FOR MANUFACTURING WIRING STRUCTURE

As the below named inventor, I hereby declare that:

This declaration The attached application, or

is directed to: United States application or PCT international application number <u>15/691,257</u> filed on August 30, 2017

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

WHEREAS, Kabushiki Kaisha Toshiba

(hereinafter referred to as "ASSIGNEE") having places of business at: <u>1-1 Shibaura 1-chome, Minato-ku, Tokyo</u> <u>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;

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.

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.

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.

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.

LEGAL NAME OF INVENTOR

Signature: Hisao Miyazahi

Inventor:	Hisao	MIYAZAKI

Date: October 31, 2017

Title of Invention	GRAPHENE WIRING STRUCTURE, SEMICONDUCTOR DEVICE, METHOD FOR MANUFACTURING GRAPHENE WIRING STRUCTURE, AND METHOD FOR MANUFACTURING WIRING STRUCTURE	
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LEGAL NAME OF	INVENTOR	
Inventor: Tadashi	SAKAI Date: Oct. 31, 2017	
Signature: <u>[a</u>	dashi Sakais	

Title of		URE, SEMICONDUCTOR DEVICE, METHOD
Invention		PHENE WIRING STRUCTURE, AND METHOD
As the below name	FOR MANUFACTURING WIRI	NUSIKUCIURE
] The attached application, or	
		notional analization number 15/601 257
	United States application or PCT inter filed on <u>August 30, 2017</u>	national application number <u>15/091,257</u>
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LEGAL NAME OF	FINVENTOR	
Inventor: Yasutal	ka NISHIDA	Date: October 31, 2019
Signature:	Yasutaha Nishida	

Title of Invention	GRAPHENE WIRING STRUCTURE, SEMICONDUCTOR DEVICE, METHOD FOR MANUFACTURING GRAPHENE WIRING STRUCTURE, AND METHOD FOR MANUFACTURING WIRING STRUCTURE
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The above-identifie	ed application was made or authorized to be made by me.
I believe that I am	the original inventor or an original joint inventor of a claimed invention in the application.
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LEGAL NAME O	FINVENTOR

Inventor: <u>Takashi YOSHIDA</u> Signature: <u>Takarhr Yo</u>

Date: November 1, 2017 Joshiole

Title of GRAPHENE WIRING STRUCTURE, SEMICONDUCTOR DEVICE, METHOD Invention FOR MANUFACTURING GRAPHENE WIRING STRUCTURE. AND METHOD FOR MANUFACTURING WIRING STRUCTURE

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LEGAL NAME OF INVENTOR

Inventor: Yuichi YAMAZAKI

aprida

Date: Oct. 31 , 2017

Signature:

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

Yanazakev

 Title of Invention
 GRAPHENE WIRING STRUCTURE, SEMICONDUCTOR DEVICE, METHOD

 FOR MANUFACTURING GRAPHENE WIRING STRUCTURE, AND METHOD
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LEGAL NAME OF INVENTOR

Inventor: Masayuki KATAGIRI

Date: November 2, 2017

Signature: Masanuki Katagini

OBLON, 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

Title of Invention	GRAPHENE WIRING STRUCTURE, SEMICONDUCTOR DEVICE, METHOD FOR MANUFACTURING GRAPHENE WIRING STRUCTURE, AND METHOD FOR MANUFACTURING WIRING STRUCTURE
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LEGAL NAME OF	INVENTOR
Inventor: Naoshi S	SAKUMA Date: A Jul 1 2017

Signature:

Date: Nov. 1, 2017

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

Naoshi Sakung

RECORDED: 12/08/2017