PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
EUGENIO DENTONI LITTA	09/09/2020
YUSUKE ONIKI	09/22/2020
LARS-AKE RAGNARSSON	08/24/2020
NAOTO HORIGUCHI	09/11/2020

RECEIVING PARTY DATA

Name:	IMEC VZW
Street Address:	KAPELDREEF 75
City:	LEUVEN
State/Country:	BELGIUM
Postal Code:	3001

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16938168

CORRESPONDENCE DATA

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ATTORNEY DOCKET NUMBER:	IMEC1133.001AUS
NAME OF SUBMITTER:	JOHN M. CARSON
SIGNATURE:	/John M. Carson/
DATE SIGNED:	10/22/2020
	This document serves as an Oath/Declaration (37 CFR 1.63).

Total Attachments: 5

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PATENT REEL: 054143 FRAME: 0171

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COMBINED DECLARATION & ASSIGNMENT (37 CFR 1.63(e))

Application Data Sheet filed previously or concurrently

Docket No.: IMEC1133.001AUS Page 1 of 5

Title: SEMICONDUCTOR DEVICES AND METHODS OF FORMING THE SAME

Inventors: Eugenio Dentoni Litta, Yusuke Oniki, Lars-Ake Ragnarsson, and Naoto Horiguchi

Declaration

This Declaration is directed to U.S. or International Application No. **16/938168**, filed July 24, 2020 and incorporating any amendments made thereto prior to the signature date of this Declaration.

As a named inventor, I declare that:

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.

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

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

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56.

Assignment from Inventors

WHEREAS, above-identified inventors (individuals hereinafter "ASSIGNOR") invented certain new and useful improvements, technology, inventions, developments, ideas, ornamental designs, or discoveries related to **SEMICONDUCTOR DEVICES AND METHODS OF FORMING THE SAME** (collectively hereinafter referred to as the "Work") for which an application for Letters Patent in the United States (identified above) has been filed or prepared for filing with the United States Patent and Trademark Office (hereinafter the "Application"), and ASSIGNOR desires to assign or confirm assignment of the Work and the Application to the below identified Assignee.

AND WHEREAS, **IMEC vzw**, with its principal place of business at **Kapeldreef 75**, **Leuven 3001 Belgium** (hereinafter the "ASSIGNEE"), desires to acquire or confirm ownership of the entire right, title, and interest in and to the Application and the Work.

NOW, THEREFORE, for good and valuable consideration of which receipt is hereby acknowledged, ASSIGNOR hereby acknowledges that ASSIGNOR has sold, assigned, transferred, and set over, and by these presents does hereby sell, assign, transfer, and set over, unto said ASSIGNEE, its successors, legal representatives, and assigns, the entire right, title, and interest throughout the world in and to the Application and the Work, including: all provisional applications relating to the Work and the Application; all nonprovisional applications claiming priority to aforementioned provisional(s) and/or the Application, including, all divisions, continuations, continuations-in-part, and reissues, and all Letters Patent of the United States which may be granted thereon and all reissues and extensions thereof; and all rights of priority under International Conventions and any related Letters Patent which may hereafter be granted or filed in any country or countries foreign to the United States, all extensions, renewals, and reissues thereof.

ASSIGNOR hereby authorizes and requests the Commissioner of Patents of the United States, and any Official of any country or countries foreign to the United States, whose duty it is to issue patents on applications as aforesaid, to issue all related Letters Patent to the ASSIGNEE, its successors, legal representatives, and assigns.

AND ASSIGNOR DOES HEREBY sell, assign, transfer, and convey to ASSIGNEE, its successors, legal representatives, and assigns all claims for damages and all remedies arising out of any violation of the

COMBINED DECLARATION & ASSIGNMENT (37 CFR 1.63(e))

Application Data Sheet filed previously or concurrently

Docket No.: IMEC1133.001AUS Page 2 of 5

Title: SEMICONDUCTOR DEVICES AND METHODS OF FORMING THE SAME

Inventors: Eugenio Dentoni Liita, Yusuke Oniki, Lars-Ake Ragnarsson, and Naoto Horiguchi

rights assigned hereby that may have accrued prior to the date of assignment to ASSIGNEE, or may accrue hereafter, including, but not limited to, the right to sue for, collect, and retain damages for past infringements of said Letters Patent before or after issuance.

AND ASSIGNOR DOES HEREBY covenant and agree that ASSIGNOR will: communicate to said ASSIGNEE, its successors, legal representatives, and assigns any facts known to ASSIGNOR respecting the Work; testify in any legal proceeding; assist in the preparation of any other Patent Property relating to the Application and the Work or any improvements made thereto; sign/execute all lawful papers; authorize the filling of, execute, and make all rightful oaths and/or declarations in connection with the Application and the Work including any improvements made thereto, any patent applications filed therefrom, and any continuing application filed from any of the aforementioned applications; and generally do everything possible to aid the ASSIGNEE, its successors, legal representatives, and assigns, to obtain and enforce proper patent protection for the Work in all countries.

Legal Name of Inventor: Eugenio Dentoni Litta

Signature: Cynlah La-

Date: 3/9/2

Witnessed by:

Witness Name (printed):

GUPTA

COMBINED DECLARATION & ASSIGNMENT (37 CFR 1.63(e)) Application Data Sheet filed previously or concurrently

Docket No.: IMEC1133.001AUS

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Title: SEMICONDUCTOR DEVICES AND METHODS OF FORMING THE SAME
Inventors: Eugenio Dentoni Litta, Yusuke Oniki, Lars-Ake Ragnarsson, and Naoto Horiguchi

Legal Name of Inventor: Yusuke Oniki

Signature:

Date: 22.09.2020

Witnessed by:

Witness Name (printed)

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Witness Name (printed)

COMBINED DECLARATION & ASSIGNMENT (37 CFR 1.63(e))

Application Data Sheet filed previously or concurrently

Docket No.: IMEC1133.001AUS

Title: SEMICONDUCTOR DEVICES AND METHODS OF FORMING THE SAME
Inventors: Eugenio Dentoni Litta, Yusuke Oniki, Lars-Ake Ragnarsson, and Naoto Horiguchi

Legal Name of Inventor: Lars-Ake Ragnarsson

Signature:

Witnessed by:

Witnessed by:

Estie Ningsih

COMBINED DECLARATION & ASSIGNMENT (37 CFR 1.63(e)) Application Data Sheet filed previously or concurrently

Docket No.: IMEC1133.001AUS Title: SEMICONDUCTOR DEVICES AND METHODS OF FORMING THE SAME	Page 5 of 5				
Inventors: Eugenio Dentoni Litta, Yusuke Oniki, Lars-Ake Ragnarsson, and Naoto Horiguchi					
Legal Name of Inventor: Naoto Horiguchi					
Signature: N. Harpel 10 Date: 2020/6	9/11				
Witnessed by: <u> </u>					
Witness Name (printed): MinSoo Eim.	*****************				

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RECORDED: 10/22/2020