### 505878504 01/23/2020

## PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

#### **CONVEYING PARTY DATA**

Name	Execution Date
LING LIU	06/19/2019
YIFEI ZHOU	06/17/2019
XIAO TENG	06/18/2019
ASHISH SIRASAO	07/02/2019
CHUANHUA SONG	06/18/2019
AARON NG	07/08/2019

#### **RECEIVING PARTY DATA**

Name:	XILINX, INC.
Street Address:	2100 LOGIC DRIVE
City:	SAN JOSE
State/Country:	CALIFORNIA
Postal Code:	95124

#### **PROPERTY NUMBERS Total: 1**

Property Type	Number
Application Number:	16505987

#### **CORRESPONDENCE DATA**

**Fax Number:** (408)377-6137

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.

 Phone:
 408-879-4185

 Email:
 xilinxipl@xilinx.com

Correspondent Name: XILINX, INC.
Address Line 1: 2100 LOGIC DR
Address Line 2: ATTN: LEGAL DEPT

Address Line 4: SAN JOSE, CALIFORNIA 95124

ATTORNEY DOCKET NUMBER:	X-5663 US
NAME OF SUBMITTER:	KATHERINE STOFER
SIGNATURE:	/Katherine Stofer/
DATE SIGNED:	01/23/2020

PATENT 505878504 REEL: 051597 FRAME: 0864

# **Total Attachments: 4**

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PATENT REEL: 051597 FRAME: 0865

Signature

#### **ASSIGNMENT**

For good and valuable consideration, receipt of which is hereby acknowledged, I/we

Ling Liu	of 2 Saggart Lodge Court, Saggart, Dublin, D24YV56 Ireland	_
Yifei Zhou	of 4251 Norwalk Drive, #AA309, San Jose, CA 95129	_
Xiao Teng	of 20488 Stevens Creek Blvd. #1509, Cupertino, CA 95014	_
Ashish Sirasao	of 1603 Dorcey Lane, San Jose, CA 95120	_
Chuanhua Song	of 1067 Belvedere Lane, San Jose, CA 95129	
Aaron Ng	of 5365 Baron Drive, San Jose, CA 95124	

hereby sell, assign and transfer to Xilinx, Inc., a Delaware corporation, having a place of business at 2100 Logic Drive, San Jose, California 95124, its successors and assigns, the entire right, title and interest throughout the world in my/our invention

#### SPARSE MATRIX PROCESSING CIRCUITRY

for which I/we will execute a United States patent application on or about the date of this assignment, and all patent applications and patents of every country for said invention, including divisions, reissues, continuations and extensions thereof, and all rights of priority resulting from the filing of said applications; I/we authorize the above-named assignee to apply for patents of foreign countries for said invention, and to claim all rights of priority without further authorization from me/us; I/we agree to execute all papers useful in connection with said United States and foreign applications, and generally to do everything possible to aid said assignee, its successors, assigns and nominees, at its request and expense, in obtaining and enforcing patents for said invention in all countries; and I/we request the Commissioner of Patents and Trademarks to issue all patents granted for said invention to the abovenamed assignee, its successors and assigns.

Executed on June if 2019	- Lizlin
	Ling Liu
(1) WITNESS my hand JORN TOYLS [Printed Name]	_
- WIL	13/06/2013
Signature	Date
(2) WITNESS my hand MA LIANG [Printed Name]	<u>.</u>
Oro	19/06/2019

Date

Executed on $6/17/201$	Mu,
	Yifei Zhou
A notary public or other officer completing this certificate verifies only the identicertificate is attached, and not the truthfulness, accuracy, or validity of that documents of the completion of the certificate is attached.	ty of the individual who signed the document to which this nent.
State of California ) County of Santa Clara )	CAPACITY CLAIMED BY SIGNER (X) individual signing for oneself
On June 17, 2019, before me, equerion person(s) whose name(s) is large subscribed to the site of the second subscribed to the second subscribed subscribed to the second subscribed subscribed to the second subscribed sub	therine a. Staffer, Notary Public,
person(s) whose name(s) is/are subscribed to the within he/she/they executed the same in his/her/their authoriz signature(s) on the instrument the person(s), or the entity executed the instrument.	instrument and acknowledged to me that
I certify under PENALTY OF PERJURY under the laws of paragraph is true and correct.	the State of California that the foregoing
WITNESS my hand and official seal.  Signature of Notary Public	KATHERINE G. STOFER Notary Public - California Santa Clara County Commission # 2288330 My Comm. Expires Jun 2, 2023
Executed on	Xiao Teng
A notary public or other officer completing this certificate verifies only the identity certificate is attached, and not the truthfulness, accuracy, or validity of that documents	of the individual who signed the document to which this
State of California ) County of Santa Clara )	CAPACITY CLAIMED BY SIGNER (X) individual signing for oneself
On June 18, 2019, before me, personally appeared Xiao Teng, who proved to me on the person(s) whose name(s) is/are subscribed to the within he/she/they executed the same in his/her/their authorize signature(s) on the instrument the person(s), or the entity executed the instrument.	e basis of satisfactory evidence to be the instrument and acknowledged to me that and capacity(ies), and that by his (box/thair)
I certify under PENALTY OF PERJURY under the laws of t paragraph is true and correct.	the State of California that the foregoing
WITNESS my hand and official seal.	KATHERINE G. STOFER Notary Public - California
Signature of Notary Public	Santa Clara County Commission # 2288330 My Comm. Expires Jun 2, 2023

2

Executed on $\frac{7/2}{1019}$	Ashish Sirasao
A notary public or other officer completing this certificate verifies only the id- certificate is attached, and not the truthfulness, accuracy, or validity of that do	entity of the individual who signed the document to which this cument.
State of California ) County of Santa Clara )	CAPACITY CLAIMED BY SIGNER (X) individual signing for oneself
on Twy Z, 2019, before me, personally appeared Ashish Sirasao, who proved to me person(s) whose name(s) is/are subscribed to the with he/she/they executed the same in his/her/their authorsignature(s) on the instrument the person(s), or the enexecuted the instrument.	nin instrument and acknowledged to me that prized capacity(ies), and that by his/her/their
I certify under PENALTY OF PERJURY under the laws paragraph is true and correct.	of the State of California that the foregoing
WITNESS my hand and official seal.  Signature of Notary Public	KATHERINE G. STOFER Notary Public - California Santa Clara County Commission # 2288330 My Comm. Expires Jun 2, 2023
Executed on 6 / 18/2019	Chuanhua Song
A notary public or other officer completing this certificate verifies only the ide certificate is attached, and not the truthfulness, accuracy, or validity of that doc	entity of the individual who signed the document to which this cument.
State of California ) County of Santa Clara )	CAPACITY CLAIMED BY SIGNER (X) individual signing for oneself
On June 18, 2019, before me, personally appeared Chuanhua Song, who proved to me person(s) whose name(s) is/are subscribed to the with he/she/they executed the same in his/her/their autho signature(s) on the instrument the person(s), or the ent executed the instrument.	in instrument and acknowledged to me that rized capacity(ies), and that by his/her/their
I certify under PENALTY OF PERJURY under the laws paragraph is true and correct.	of the State of California that the foregoing
WITNESS my hand and official seal.  Signature of Notary Public	KATHERINE G. STOFER Notary Public - California Santa Clara County Commission # 2288330 My Comm. Expires Jun 2, 2023

Signature of Notary Public

Executed on _	7/8/19	•	ALCONAS	
			Aaron Ng	

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California ) County of Santa Clara ) CAPACITY CLAIMED BY SIGNER
(X) individual signing for oneself

On Juy 8, 2019, before me, Katherne G. Sto Rer, Notary Public, personally appeared Aaron Ng, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature of Notary Public

KATHERINE G. STOFER
Notary Public - California
Santa Clara County
Commission # 2288330
My Comm. Expires Jun 2, 2023