

PATENT ASSIGNMENT COVER SHEET

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 Stylesheet Version v1.2

EPAS ID: PAT5714824

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
CONVEYING PARTY DATA	
Name	Execution Date
SACHIT GROVER	04/26/2018
CHUNGHO LEE	12/10/2018
XIAOPING LI	05/03/2018
DINGYUAN LU	04/25/2018
ROGER MALIK	12/10/2018
GANG XIONG	04/25/2018
RECEIVING PARTY DATA	
Name:	FIRST SOLAR, INC.
Street Address:	350 WEST WASHINGTON STREET
Internal Address:	6TH FLOOR
City:	TEMPE
State/Country:	ARIZONA
Postal Code:	85281
PROPERTY NUMBERS Total: 1	
Property Type	Number
Application Number:	16488808
CORRESPONDENCE DATA	
Fax Number:	(419)255-9639
<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>	
Phone:	4192555900
Email:	MST@mstfirm.com
Correspondent Name:	MACMILLAN, SOBANSKI & TODD, LLC
Address Line 1:	720 WATER STREET
Address Line 2:	ONE MARITIME PLAZA, FIFTH FLOOR
Address Line 4:	TOLEDO, OHIO 43604
ATTORNEY DOCKET NUMBER:	58957-US-PCT
NAME OF SUBMITTER:	RYAN H. BOGGS
SIGNATURE:	/Ryan H. Boggs/
DATE SIGNED:	09/12/2019

PATENT

Total Attachments: 9

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ASSIGNMENT BY INVENTORS

THIS ASSIGNMENT is made by Sachit Grover, Chungho Lee, Xiaoping Li, Dingyuan Lu, Roger Malik, and Gang Xiong (hereinafter referred to as “Assignors”), each having an address C/O 28101 Cedar Park Boulevard, Perrysburg, Ohio 43551, USA;

WHEREAS, Assignors have invented certain new and useful improvements in THIN FILM STACKS FOR GROUP V DOPING, PHOTOVOLTAIC DEVICES INCLUDING THE SAME, AND METHODS FOR FORMING PHOTOVOLTAIC DEVICES WITH THIN FILM STACKS set forth in an International Application for Letters Patent under the Patent Cooperation Treaty (“PCT”), already filed on February 27, 2018 as International Application No. PCT/US2018/019848; and

WHEREAS, FIRST SOLAR, INC., a Corporation organized under and pursuant to the laws of Delaware, having its principal place of business at First Solar, Inc., 350 West Washington Street, 6th Floor, Tempe, Arizona 85281 (hereinafter referred to as “Assignee”), is desirous of acquiring the entire right, title and interest in and to said inventions and said International Application for Letters Patent under the PCT, and in and to any Letters Patent of any Contracting State of the PCT to be obtained therefore and thereon.

NOW, THEREFORE, in accordance with Intellectual Property provisions of the employment agreement previously executed by and between Assignee and Assignors, and for other good and sufficient consideration, the receipt of which is hereby acknowledged, Assignors have sold, assigned, transferred and set over, and by these presents do sell, assign, transfer and set over, unto Assignee, its successors, legal representatives and assigns, the entire right, title, and interest in and to the above-mentioned inventions and International Application for Letters Patent under the PCT, and in and to any and all applications for Letters Patent that arise from said above-mentioned inventions and International Application, and in and to any and all direct and indirect divisions, continuations and continuations-in-part of said applications, and in and to any and all Letters Patent in any countries which may be granted therefore and thereon, and reissues, reexaminations and extensions of said Letters Patent, and all rights under the International Convention for the

Protection of Industrial Property including all rights of priority, the same to be held and enjoyed by Assignee, for its own use and benefit and the use and benefit of its successors, legal representatives and assigns, to the full end of the term or terms for which Letters Patent may be granted and/or extended, as fully and entirely as the same would have been held and enjoyed by Assignors, had this sale and assignment not been made.

AND for the same consideration, Assignors hereby represent and warrant to Assignee, its successors, legal representatives and assigns, that, at the time of execution and delivery of these presents, except for any rights, titles, and/or interests that have arisen to Assignee under law or that have already been transferred to Assignee, Assignors are the sole and lawful owners of the entire right, title, and interest in and to the said inventions and International Application for Letters Patent above-mentioned, and that the same are unencumbered, and that Assignors have good and full right and lawful authority to sell and convey the same in the manner herein set forth.

AND for the same consideration, Assignors hereby covenant and agree to and with Assignee, its successors, legal representatives and assigns, that Assignors will sign all papers and documents, take all lawful oaths and do all acts necessary or required to be done for the procurement, maintenance, enforcement, and defense of any Letters Patent and applications for Letters Patent for said inventions, without charge to Assignee, its successors, legal representatives and assigns, whenever counsel of Assignee, or counsel of its successors, legal representatives and assigns, shall advise; that any proceeding in connection with said inventions, or said International Application for Letters Patent, or any proceeding in connection with any Letters Patent or applications for Letters Patent for said inventions in any country, including but not limited to interference proceedings, is lawful and desirable; or, that any division, continuation or continuation-in-part of any application for Letters Patent, or any reissue, reexamination or extension of any Letters Patent, to be obtained thereon, is lawful and desirable.

AND Assignors hereby request the Commissioner of Patents of the United States of America and the empowered officials of all other governments to issue all said Letters Patent to Assignee, as Assignee of said inventions and the Letters Patent to be issued thereon, for the sole use and benefit of Assignee, its successors, legal representatives and assigns.

AND Assignors hereby grant the following individuals the power to insert on this Assignment any further identification which may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office, or the equivalent office of any other government, for recordation of this document:

MACMILLAN, SOBANSKI & TODD, LLC

All practitioners at United States Patent and Trademark Office Customer Number **109944**.

AND Assignors acknowledge an obligation of assignment of this invention to Assignee at the time the invention was made.



SACHIT GROVER

Date: 4/26/2018

United States of America)

State of) ss.:

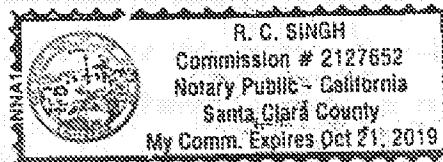
County of)

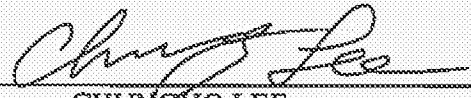
On this _____ day of _____, before me personally came SACHIT GROVER, to me known to be the individual described in and who executed the foregoing instrument, and acknowledged execution of the same.

Notary Public

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 ss. On 04/26/2018 before me R.C. Singh, Notary Public, personally appeared Sachit Grover 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.




CHUNGHO LEE

Date: 12/10/2018

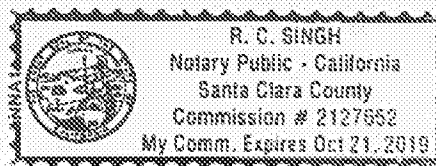
United States of America)
State of _____) ss.:
County of _____)

On this _____ day of _____, _____, before me personally came CHUNGHO LEE, to me known to be the individual described in and who executed the foregoing instrument, and acknowledged execution of the same.


Notary Public

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 (ss. On 12/10/2018 before me R.C. Singh,
Notary Public, personally appeared CHUNGHO LEE
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.







XIAOPING LI

Date: 5/3/2018

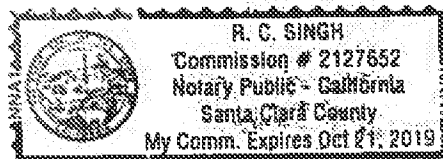
United States of America)
State of California) ss.:
County of Santa Clara

On this _____ day of _____, _____, before me personally came XIAOPING LI, to me known to be the individual described in and who executed the foregoing instrument, and acknowledged execution of the same.

Notary Public

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 (ss. On 5/3/2018 before me R.C. Singh,
Notary Public, personally appeared XIAOPING LI
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.

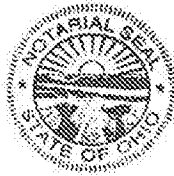


Dingyuan Lu
DINGYUAN LU

Date: 04/25/2018

United States of America)
State of Ohio) ss.:
County of Wood)

On this 25 day of April, 2018, before me
personally came DINGYUAN LU, to me known to be the individual
described in and who executed the foregoing instrument, and acknowledged execution
of the same.



SHERI ULINSKI
Notary Public, State of Ohio
My commission expires 9-22-20

Sheri Ulinski
Notary Public

Roger Malik

ROGER MALIK

12/10/2018

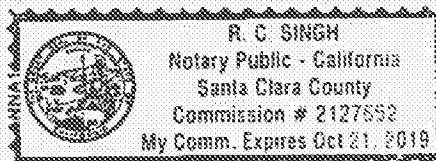
United States of America)
State of) ss.:
County of)

On this _____ day of _____, _____, before me personally came ROGER MALIK, to me known to be the individual described in and who executed the foregoing instrument, and acknowledged execution of the same.

Notary Public

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 ss. On 12/10/2018 before me R.C. Singh,
Notary Public, personally appeared ROGER MALIK
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.



[Handwritten signature]

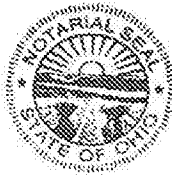


GANG XIONG


Date: 04/25/2018

United States of America)
State of Ohio) ss.:
County of Wood)

On this 25 day of April, 2018, before me
personally came GANG XIONG, to me known to be the individual
described in and who executed the foregoing instrument, and acknowledged execution
of the same.



SHERI ULINSKI
Notary Public, State of Ohio
My commission expires 9-22-20


Notary Public