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PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
WANG-LONG ZHOU	12/10/2019
FRANCISCO VILLARREAL-SAUCEDO	12/05/2019

RECEIVING PARTY DATA

Name:	PANASONIC INTELLECTUAL PROPERTY MANAGEMENT CO., LTD.	
Street Address:	1-61, SHIROMI 2-CHOME	
Internal Address:	CHUO-KU, OSAKA-SHI	
City:	OSAKA	
State/Country:	JAPAN	
Postal Code:	540-6207	

PROPERTY NUMBERS Total: 2

Property Type	Number
PCT Number:	US2019060020
Application Number:	16675655

CORRESPONDENCE DATA

Fax Number: (202)739-3001

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: 617-951-8293

Email: patents@morganlewis.com, debra.gilbride@morganlewis.com

Correspondent Name: MATTHEW T. CURRIE

Address Line 1: MORGAN, LEWIS, & BOCKIUS LLP (BO)

Address Line 2: 1111 PENNSYLVANIA AVENUE Address Line 4: WASHINGTON, D.C. 20004-2541

ATTORNEY DOCKET NUMBER:	TER-110/110853-01-5110	
NAME OF SUBMITTER:	MATTHEW T. CURRIE	
SIGNATURE:	/Matthew T. Currie/	
DATE SIGNED:	12/12/2019	

Total Attachments: 3

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Assignment for 16/675,655 and PCT/US19/60020 Attorney Docket No. TER-110/110853-01-5110 and TER-110PC/110853-01-5110

PATENT APPLICATION Assignment

For good and valuable consideration, the receipt of which is hereby acknowledged, we, the undersigned, co-inventors, hereinafter referred to as "Assignors":

WANG-LONG ZHOU

FRANCISCO VILLARREAL-SAUCEDO

have made an invention(s) (the "Invention(s)") set forth in an application for patent entitled "OPTICAL FIBER STRUCTURES AND METHODS FOR BEAM SHAPING" and which is a United States nonprovisional application bearing Application No. 16/675,655 and filed on November 6, 2019 and set forth in an application for patent entitled "OPTICAL FIBER STRUCTURES AND METHODS FOR BEAM SHAPING" and which is a United States International application bearing Application No. PCT/US19/60020 and filed on November 6, 2019;

Do hereby sell, assign and transfer to PANASONIC INTELLECTUAL PROPERTY MANAGEMENT CO., LTD., a corporation, having a place of business at 1-61, Shiromi 2-chome, Chuo-ku, Osaka-shi, Osaka 540-6207 Japan, its successors, assigns, and legal representatives, the full and exclusive right to said invention and said application and to any and all inventions described in said invention and said application and to any and all inventions described in said application for the United States, its territorial possessions and all foreign countries, and the entire right, title and interest in and to any and all Letters Patent which may be granted therefor in the United States, its territorial possessions and all foreign countries; and in and to any and all provisionals, non-provisionals, continuations-in-part, continuations, divisions, substitutes, reissues, extensions thereof, and all other applications for Letters Patent relating thereto which have been or shall be filed in the United States, its territorial possession and/or any foreign countries, and all rights, together with all priority rights, under any of the international conventions, unions, agreements, act, and treaties, including all future conventions, unions, agreements, acts, and treaties;

Agree that PANASONIC INTELLECTUAL PROPERTY MANAGEMENT CO., LTD., hereinafter referred to as Assignee, may apply for and receive Letters Patent for said invention and said inventions, hereinafter referred to as said invention, in its own name, in the United States, its territorial possessions, and all foreign countries; and that, when requested to carry out in good faith the intent and purpose of this assignment, at the expense of said Assignee, its successors, assigns and legal representatives, the undersigned will execute all non-provisionals, continuations-in-part, continuations, divisions, substitutes, reissues, extensions thereof, execute all rightful oaths, assignments, powers of attorney and other papers, testify in any legal or quasi legal proceedings; communicate to said Assignee, its successors, assigns or legal representatives all facts known to the undersigned relating to said invention and the history thereof; and generally do everything possible which said Assignee, its successors, assigns, or legal representatives shall consider desirable for aiding in securing, maintaining and enforcing proper patent protection for said invention and for vesting title to said invention and all applications for patents on said invention in said Assignee, successors, assigns, or legal representatives; and

Covenant with said Assignee, its successors, assigns, or legal representatives that no assignment, grant, mortgage, license or other agreement affecting the rights and property herein conveyed has been made to others by the undersigned, and that full right to convey the same has herein expressed is possessed by the undersigned.

Assignment for 16/675,655 and PCT/US19/60020 Attorney Docket No. TER-110/110853-01-5110 and TER-110PC/110853-01-5110

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 for recordation of this document:

MORGAN, LEWIS & BOCKIUS LLP

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

IN THE TESTIMONY WHEREOF, we have hereunto set our signatures on the date indicated below.

	a contraction of the contraction
	WANG-LONG ZHOU
Date: <u>Dl.Cl.mbl</u>	16,20,9
United States of America)
State of Massac	rusits iss.
County of Mudal	<u> </u>
On this 10 th	ay of December, 2019, before me
personally came	WANG-LONG ZHOU , to me known to be the individual
* *************************************	cuted the foregoing instrument, and acknowledged execution
of the same.	Saled the foregoing institution, and techno-viceged execution
or the same.	Thanky Manalesta
	Notary Public ''
Commonwest My Con	. MANCHESTER ARY PURIC In of Massachusetts Tission Expires 127, 2020

Assignment for 16/675,655 and PCT/US19/60020 Attorney Docket No. TER-110/110853-01-5110 and TER-110PC/110853-01-5110

	Fee. 1 Villarieal S
	FRANCISCO VILLARREAL-SAUCEDO
Date: 12-05-2014	
United States of America	
State of Massachuse HS) ss	*
County of Muchalles (
On this day of December personally came FRANCISCO VILLARREAL-SA described in and who executed the foregoing instr	to me known to be the individual tument, and acknowledged execution
× 4	Acincy Public Mancheolas
NANCY A MANCHESTER NOTARY PURIC Commonwealth of Massachuseths My Commission Expires My Commission Expires	

PATENT REEL: 051260 FRAME: 0253

RECORDED: 12/12/2019