505755486 11/04/2019

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5802300

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
YUN-WEI CHENG	03/27/2018
CHUN-HAO CHOU	03/27/2018
KUO-CHENG LEE	04/02/2018

RECEIVING PARTY DATA

Name:	TAIWAN SEMICONDUCTOR MANUFACTURING CO., LTD.
Street Address:	NO. 8, LI-HSIN RD. 6
Internal Address:	HSIN-CHU SCIENCE PARK
City:	HSIN-CHU
State/Country:	TAIWAN
Postal Code:	300-77

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16672814

CORRESPONDENCE DATA

Fax Number: (216)502-0601

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: 216-502-0600

Email: docketing@eschweilerlaw.com **Correspondent Name:** ESCHWEILER & POTASHNIK, LLC

Address Line 1: **ROSETTA CENTER**

Address Line 2: 629 EUCLID AVE., SUITE 1000 Address Line 4: CLEVELAND, OHIO 44114

ATTORNEY DOCKET NUMBER:	TSMCP852USB
NAME OF SUBMITTER:	DAVID W. POTASHNIK
SIGNATURE:	/David W. Potashnik/
DATE SIGNED:	11/04/2019

Total Attachments: 5

source=Assignment#page1.tif source=Assignment#page2.tif

> **PATENT** REEL: 050904 FRAME: 0242 505755486

source=Assignment#page3.tif
source=Assignment#page4.tif
source=Assignment#page5.tif

PATENT REEL: 050904 FRAME: 0243



PATENT ASSIGNMENT

PARTIES TO THE ASSIGNMENT

Assignor(s): Yun-Wei Cheng

Assignor(s): Chun-Hao Chou

Assignor(s): Kuo-Cheng Lee

Assignee:

Taiwan Semiconductor Manufacturing Co., Ltd. No. 8, Li-Hsin Rd. 6, Hsin-Chu Science Park Hsin-Chu, Taiwan 300-77 Republic of China

AGREEMENT

WHEREAS, ASSIGNOR(S) (listed above) are inventor(s) of an invention entitled
"INCREASED OPTICAL PATH FOR LONG WAVELENGTH LIGHT BY GRATING
STRUCTURE" for which:

a n	on-provisional application for United States Letters Patent:
\boxtimes	was executed on even date preparatory to filing (each inventor should sign this
	Assignment on the same day as he/she signs the Declaration); or
	was filed on and accorded U.S. Serial No; or
	I hereby authorize and request my attorney associated with Customer No
	107476, to insert on the designated lines below the filing date and application
	number of said application when known:
	U.S. Serial No.
	filed on

Page 1 of 5

WHEREAS, ASSIGNEE (listed above), a corporation of the Republic of China is desirous of acquiring the entire right, title and interest in and to the invention and in and to any letters patent that may be granted therefore in the United States and in any and all foreign countries;

NOW. THEREFORE, in exchange for good and valuable consideration, the receipt of which is hereby acknowledged, ASSIGNOR(S) hereby sell, assign and transfer unto ASSIGNEE its successors and assigns, the entire right, title and interest in and to said invention and improvements, said application and any and all letters patent which may be granted for said invention in the United States of America and its territorial possessions and in any and all foreign countries, and in any and all divisions, reissues, re-examinations and continuations thereof, including the right to file foreign applications directly in the name of ASSIGNEE and to claim priority rights deriving from said United States application to which said foreign applications are entitled by virtue of international convention, treaty or otherwise, said invention, application and all letters patent on said invention to be held and enjoyed by ASSIGNEE and its successors and assigns for their use and benefit and of their successors and assigns as fully and entirely as the same would have been held and enjoyed by ASSIGNOR(S) had this assignment, transfer and sale not been made. ASSIGNOR(S) hereby authorize and request the Commissioner of Patents and Trademarks to issue all letters patent on said invention to ASSIGNEE. ASSIGNOR(S) agree to execute all instruments and documents required for the making and prosecution of applications for United States and foreign letters patent on said invention, for litigation regarding said letters patent, or for the purpose of protecting title to said invention or letters patent therefore.

Page 2 of 5

TSMC Docket No. P20171258US00 Docket No. TSMCP852US

Date Date

Date

Name 1st Inventor Yun-Wei Cheng

Page 3 of 5

ywchengl 2010/03/27 10:27:24

TSMC Docket No. P20171258US00 Docket No. TSMCP852US

20(8-5, 27)

Chun Har Cherr

Name 2nd Inventor Chun-Hao Chou

TSMC Docket No. P20171258US00 Docket No. TSMCP852US

Name 3rd Inventor Kuo-Cheng Lee

Page 5 of 5

PATENT REEL: 050904 FRAME: 0248

RECORDED: 11/04/2019