506254434 09/16/2020

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT6301180

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
SEIJI TAKAHASHI	08/17/2018
CHEN-JONG WANG	08/17/2018
DUN-NIAN YAUNG	08/17/2018
FENG-CHI HUNG	08/17/2018
FENG-JIA SHIU	08/21/2018
JEN-CHENG LIU	08/17/2018
JHY-JYI SZE	08/17/2018
CHUN-WEI CHANG	08/28/2020
WEI-CHENG HSU	08/20/2018
WEI CHUANG WU	08/16/2018
YIMIN HUANG	08/17/2018

RECEIVING PARTY DATA

Name:	TAIWAN SEMICONDUCTOR MANUFACTURING CO., LTD.
Street Address:	8, LI-HSIN RD. 6
Internal Address:	HSINCHU SCIENCE PARK
City:	HSINCHU
State/Country:	TAIWAN
Postal Code:	300-78

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	17022456

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

506254434 REEL: 053788 FRAME: 0283

PATENT

Address Line 4: CLE	VELAND, OHIO 44114
ATTORNEY DOCKET NUMBER:	TSMCP918USA
NAME OF SUBMITTER:	ANTHONY L. VENCI
SIGNATURE:	/Anthony L. Venci/
DATE SIGNED:	09/16/2020
Total Attachments: 13	
source=Assignment#page1.tif	
source=Assignment#page2.tif	
source=Assignment#page3.tif	
source=Assignment#page4.tif	
source=Assignment#page5.tif	
source=Assignment#page6.tif	
source=Assignment#page7.tif	
source=Assignment#page8.tif	
source=Assignment#page9.tif	
source=Assignment#page10.tif	
source=Assignment#page11.tif	
source=Assignment#page12.tif	
source=Assignment#page13.tif	

PATENT REEL: 053788 FRAME: 0284

PATENT ASSIGNMENT

PARTIES TO THE ASSIGNMENT

Assignor(s): Seiji Takahashi

Assignor(s): Chen-Jong Wang

Assignor(s): Dun-Nian Yaung

Assignor(s): Feng-Chi Hung

Assignor(s): Feng-Jia Shiu

Assignor(s): Jen-Cheng Liu

Assignor(s): Jhy-Jyi Sze

Assignor(s): Chun-Wei Chang

Assignor(s): Wei-Cheng Hsu

Assignor(s): Wei Chuang Wu

Assignor(s): Yimin Huang

Assignee:

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

<u>AGREEMENT</u>

WHEREAS, ASSIGNOR(S) (listed above) are inventor(s) of an invention entitled

"A SEMICONDUCTOR IMAGING DEVICE HAVING IMPROVED DARK CURRENT

PERFORMANCE" 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

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

Page 2 of 13

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.

8/17/20/8 Date Seyl Tahahaell

Name 1st Inventor Sejji Takahashi

Page 3 of 13

Thun fry Wky 8/1.7/2018

Name 2nd Inventor Chen-Jong Wang

2018/8/10

Date

Name 4th Inventor Feng-Chi Hung

Page 6 of 13

20/8, 08, 2/ Date

Treng - Jia Shi U Name 5th Inventor Feng-Jia Shiu

Date

Jen Cheng Lin

Name 6th Inventor Jen-Cheng Liu

\(\frac{\frac}{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac}}}}}}}}{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac}}}}}}}}{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac}}}}}}}{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac}}}}}}}{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\fi

Name 7th Inventor Jhy-Jyi Sze

2018.8.00

Date

Name 8th Inventor Chun-Wei Chang

Page 10 of 13

7018/08/20 Date

Name 9th Inventor Wei-Cheng Hsu

Date

Wei Chuang Will.

Name 10th Inventor Wei Chuang Wu

08/11/201

Date

Name 11th Inventor

11th Inventor Yimin Huang

Page 13 of 13

PATENT REEL: 053788 FRAME: 0297