PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
FENG-CHI HUNG	12/24/2019
DUN-NIAN YAUNG	12/15/2019
JEN-CHENG LIU	12/24/2019
WEI CHUANG WU	12/24/2019
YEN-YU CHEN	12/24/2019
CHIH-KUAN YU	12/24/2019

RECEIVING PARTY DATA

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PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	17867760

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DATE SIGNED:	07/19/2022

507391410 PATENT REEL: 060544 FRAME: 0001

Total Attachments: 8 source=Assignment#page1.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

PATENT REEL: 060544 FRAME: 0002

PATENT ASSIGNMENT

PARTIES TO THE ASSIGNMENT

Assignor(s):

Feng-Chi Hung
Assignor(s): Dun-Nian Yaung
Assignor(s): Jen-Cheng Liu
Assignor(s): Wei Chuang Wu
Assignor(s): Yen-Yu Chen
Assignor(s): Chih-Kuan Yu
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
"IMAGE SENSOR WITH OVERLAP OF BACKSIDE TRENCH ISOLATION STRUCTURE
AND VERTICAL TRANSFER GATE" for which:

a non-provisional application for United States Letters Patent:

was filed on _____ and accorded U.S. Serial No. ____; or

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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

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 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

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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.

 $\frac{nola.12.74}{Date}$

Name 1st Inventor Feng-Chi Hung

Date

Name

^{2nd} Inventor Dun-Nian Ya

Name 3rd Inventor Jen-Cheng Liu

Name 4th Inventor Wei Chuang Wu

2019 12 24 Date

Name 5th Inventor Yen-Yu Chen

7019/12/24 Date

Name 6th Inventor Chih-Kuan Yu

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