504624603 11/02/2017

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
BO-YANG CHEN	10/26/2017
CHI-CHUN FANG	10/26/2017
WAI-KEI MAK	10/26/2017
TING-CHI WANG	10/26/2017

RECEIVING PARTY DATA

Name:	TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY LTD.	
Street Address:	NO.8, LI-HSIN RD. 6, HSINCHU SCIENCE PARK	
City:	HSINCHU	
State/Country:	TAIWAN	

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15714141

CORRESPONDENCE DATA

Fax Number:

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: 949 387 2885

Email: inbox@wpatca.com

Correspondent Name: WPAT, PC INTELLECTUAL PROPERTY ATTORNEYS

Address Line 1:2301 DUPONT DR. SUITE 510Address Line 4:IRVINE, CALIFORNIA 92612

ATTORNEY DOCKET NUMBER:	18506-1206
NAME OF SUBMITTER:	ANTHONY KING
SIGNATURE:	/Anthony King/
DATE SIGNED:	11/02/2017

Total Attachments: 2

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PATENT 504624603 REEL: 044020 FRAME: 0855

Your Ref.: P20171217US00

US ONLY

ASSIGNMENT

WHEREAS, I(we), CHEN, BO-YANG, FANG, CHI-CHUN, MAK, WAI-KEI and WANG, TING-CHI whose post office address(es) appear(s) below, hereinafter referred to as ASSIGNOR, have invented certain new and useful invention entitled

METHOD, SYSTEM, AND STORAGE MEDIUM FOR RESOLVING COLORING CONFLICT IN MULTI-PATTERNING LITHOGRAPHY

	- Land Millo Glam III
(hereinafter referred to as the INVENTION) for which an ap is executed on even date herewith unless at least one of the ☐ United States Design Patent was ☐ executed on:	plication for United States Letters Patent /Utility Patent e following is checked:
☑ filed on: 25 September 2017 Seri ☐ established by PCT International Patent Application United States of America	on No.: filed: designating the
☐ issued on as U.S. Patent No.	· <u> </u>
WHEREAS, TAIWAN SEMICONDUCTOR MANU address is NO.8, LI-HSIN RD. 6, HSINCHU So hereinafter referred to as ASSIGNEE, is desirous of acquirit the United States and its territorial possessions;	CIENCE PARK, HSINCHU, TAIWAN, R.O.C.
•	·
NOW, THEREFORE, for good and valuable consider ASSIGNOR, by these presents do sell, assign and transfer and to said INVENTION and application throughout the I Patent granted on any division, continuation, continuation terms for which the same may be granted, including all principles.	United States of America, including any and all Letters -in-part and reissue of said application for the full term or
ASSIGNOR further covenants that no assignments, sa or entered into which would conflict with this Assignment	ale, agreement or encumbrance has been or will be made
filing, prosecution and maintenance of said application of said INVENTION, including additional documents that massaid INVENTION, all without further consideration. ASS ASSIGNEE'S expense, to identify and communicate to ASS concerning the INVENTION that are within ASSIGNOR'S potestimony on behalf of ASSIGNEE that lawfully may be maintenance, litigation and defense of any patent applies.	y be required to affirm the rights of ASSIGNEE in and to SIGNOR also agrees, without further consideration and at SIGNEE at ASSIGNEE'S request documents and information ssession or control, and to provide further assurances and e required of ASSIGNOR in respect of the prosecution,
AT SO ASSIGNOD haraby authorized and requests the	Commissioner of Betanta and Trademarks to issue one
ALSO, ASSIGNOR nereby authorizes and requests the	e Commissioner of Patents and Trademarks to issue any
and all Letters Patent referred to above to ASSIGNEE, as the	
the same, for ASSIGNEE'S sole use and behoof; and for the	
successors, to the full end of the term for which such Le	exters Patent may be granted, as fully and entirely as the
same would have been held by ASSIGNOR had this assignment	nent and sale not been made.
Assignor Name	Address
CHEN, BO-YANG	6F3, NO.97, JINCHENG 1ST RD., EAST
- ,	DIST., HSINCHU ČITY 300, TAIWAN (R.O.C.)
	<u></u>
Signature of Assignor (X) Bo - Yano Chom	Date of Signature (X) 10 / v6 / v017
(X) So - Yang (hem Name of Witness (optional)	Name of Witness (optional)
Name of remeas topicolary	Name of witness (optional)
Signature of Witness (optional)	Signature of Witness (Optional)

PATENT

REEL: 044020 FRAME: 0856

Assignor Name FANG, CHI-CHUN	2F., NO.19, JIANXIN RD., EAST DIST., HSINCHU CITY 300, TAIWAN (R.O.C.)
Signature of Assignor (X) (M) — (MUN FANG) Name of Witness (optional)	Date of Signature (X) \(\omega / \gamma \omega \) \(\om
Signature of Witness (optional)	Signature of Witness (Optional)

Assignor Name -MAK, WAI-KEI	Address 11F3, NO.56, JIANXIN RD., EAST DIST., HSINCHU CITY 300, TAIWAN (R.O.C.)
Signature of Assignor (X) Mak (1) an Kan	Date of Signature (X) 10/26/2017
Name of Witness (optional)	Name of Witness (optional)
Signature of Witness (optional)	Signature of Witness (Optional)

Assignor Name WANG, TING-CHI	8F2, NO.425-5, SEC. 2, GONGDAO 5TH RD., EAST DIST., HSINCHU CITY 300, TAIWAN (R.O.C.)
Signature of Assignor (X), J.J. L. L.	Date of Signature (X) /0/26/2017
Name of Witness (optional)	Name of Witness (optional)
Signature of Witness (optional)	Signature of Witness (Optional)