503565179 11/11/2015

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2

SUBMISSION TYPE: NEW ASSIGNMENT

NATURE OF CONVEYANCE: ASSIGNMENT

EPAS ID: PAT3611806

CONVEYING PARTY DATA

Name	Execution Date
NING GE	06/25/2013
CHAW SING HO	06/30/2013
ADAM L. GHOZEIL	06/27/2013
MICHAEL W. CUMBIE	06/27/2013

RECEIVING PARTY DATA

Name:	Hewlett-Packard Development Company, L.P.
Street Address:	11445 Compaq Center Drive West
City:	Houston
State/Country:	TEXAS
Postal Code:	77070

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	14890551

CORRESPONDENCE DATA

Fax Number: (970)778-4063

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: (541)715-8443 **Email:** ipa.mail@hp.com

Correspondent Name: HP INC.

Address Line 1: 3390 E. HARMONY ROAD MS 35
Address Line 2: INTELLECTUAL PROPERTY

Address Line 4: FORT COLLINS, COLORADO 80528

ATTORNEY DOCKET NUMBER: 84385424

NAME OF SUBMITTER: STEVEN L. NICHOLS

SIGNATURE: /Steven L. Nichols/

DATE SIGNED: 11/11/2015

Total Attachments: 3

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PATENT REEL: 037016 FRAME: 0145 HEWLETT-PACKARD COMPANY Intellectual Property Administrator 3404 E. Harmony Road Mail Stop 35 Fort Collins, Colorado 80528

PATENT	APPLI	CA	TIO	iN
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RECORD ID:	700211553
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ASSIGNMENT OF PATENT APPLICATION

I/We, the undersigned (each) have agreed and hereby agree, that for good and valuable consideration, the receipt of which is hereby acknowledged, and in furtherance of my/our obligations to HEWLETT-PACKARD DEVELOPMENT COMPANY, L.P., a Texas Limited Partnership having its principal place of business in Houston, Texas, (hereinafter HPDC), and to its subsidiaries and affiliates, to assign and transfer to HPDC, its successors and assigns, the entire right, title and interest, including the right of priority, in, to and under an application for Patent entitled.

entitled:	entire right, title and interest, includention APPARATUSES INCLUDING		•	and under an application for Patent LK LAYER AND A EPITAXIAL
- '	November 11, 2015	Applicati	on No.:	14/890,551
and the inver	ntion(s) and improvement(s) set forth nd renewals of and substitutes for se	therein, and any and aid application for sa	l all contir id Patent	nuations, continuations-in-part (C-l-P's), and any and all other Patent of any reexaminations, or extensions of said
by HPDC, its Patent respec	successors, assigns, nominees or leg	gal representatives, to xtended, as fully and	the full o	t in any country, to be held and enjoyed and of the term or terms for which said is the same would have been held and
executed and time a reques perfect the titl nominees or is said inventior papers, to ex- rightful oaths and legal reprimprovements	will not execute any agreement in control in the said invention(s) or improvement(legal representatives, and I/we agree the solution or improvement(s), said application and declarations, and declarations, and generally to decree that it is a solution or improvement or in the said application and declarations, and generally to decree that it is a solution or improvement or in the said application and declarations, and generally to decree that it is a solution and enforce, for	inflict herewith, and t/w eccute and deliver all (s), said application are to communicate to HP in and said Patent, to continuations, C-I-P' deverything possible its or their own benefit	ve further such paper of said Paper of the said Paper of the said HF it, proper	herein assigned, and that I/we have no covenant and agree that I/we will, each ers as may be necessary or desirable to atent, to HPDC, its successors, assigns its nominee, all known facts respecting any legal proceedings, to sign all lawfu e and foreign applications, to make all DC, its successors, assigns, nominees patent protection for said invention(s) one incurred by me/us in lending such
applications a invention(s)	as aforesaid, to issue to HPDC, as as	signee of the entire ri	ght, title a	es whose duty it is to issue patents or and interest, any and all Patent for said result of the application aforesald, in
	r Patent, now identified by the Record			date and application number of said soon as the same shall have been made
IN WITH	NESS WHEREOF, I/we hereunto set r	my/our hand(s) and	seal(s):	
la	la Jing			June 25,2013
Inventor's Sign	nature		Date	
NING GE				
Inventor's Typ	ed Name		•	
Inventor's Sign	nature		Date	
Cha 0:= = 11				
Chaw Sing Ho Inventor's Type				
Rev 1/ 2013 (Assig	inment)	Page 1 of 2	•	

HEWLETT-PACKARD COMPANY Intellectual Property Administrator 3404 E. Harmony Road Mail Stop 35 Fort Collins, Colorado 80528

Rev 1/2013 (Assignment)

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RECORD ID: 700211553	
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ASSIGNMENT OF PATENT APPLICATION

I/We, the undersigned (each) have agreed and hereby agree, that for good and valuable consideration, the receipt of which is hereby acknowledged, and in furtherance of my/our obligations to HEWLETT-PACKARD DEVELOPMENT COMPANY, L.P., a Texas Limited Partnership having its principal place of business in Houston, Texas, (hereinafter HPDC), and to its subsidiaries and affiliates, to assign and transfer to HPDC, its successors and assigns, the entire right, title and interest, including the right of priority, in, to and under an application for Patent entitled:

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LAYER	MO A GODDING E MIN A DOEN EN EN EN EN EN EN EN
Filing Date: November 11, 2015	Application No.: 14/890,551
and the invention(s) and improvement(s) set fi divisionals, and renewals of and substitutes f	orth therein, and any and all continuations, continuations-in-part (C-I-P's), or said application for said Patent, and any and all other Patent of any n or therefore; and any reissues, or reexaminations, or extensions of said
by HPDC, its successors, assigns, nominees of	plications in my/our name for Patent in any country, to be held and enjoyed or legal representatives, to the full end of the term or terms for which said or extended, as fully and entirely as the same would have been held and sfer not been made;
	ull right to convey the entire interest herein assigned, and that I/we have not

time a request is made, and without undue delay, execute and deliver all such papers as may be necessary or desirable to perfect the title to said invention(s) or improvement(s), said application and said Patent, to HPDC, its successors, assigns, nominees or legal representatives, and I/we agree to communicate to HPDC, or to its nominee, all known facts respecting said invention(s) or improvement(s), said application and said Patent, to testify in any legal proceedings, to sign all lawful papers, to execute all disclaimers and divisionals, continuations, C-I-P's, reissue and foreign applications, to make all rightful oaths and declarations, and generally to do everything possible to aid HPDC, its successors, assigns, nominees and legal representatives to obtain and enforce, for its or their own benefit, proper patent protection for said invention(s) or improvement(s) in any and all countries provided the expenses which may be incurred by me/us in lending such cooperation and assistance are paid by HPDC;

AND I/we hereby authorize and request the official of any country or countries whose duty it is to issue patents on applications as aforesaid, to issue to HPDC, as assignee of the entire right, title and interest, any and all Patent for sald invention(s) or improvement(s) which may be issued and granted on or as a result of the application aforesaid, in accordance with the terms of this assignment.

I/we further authorize and direct the attorneys of record to insert the filing date and application number of said application for Patent, now identified by the Record ID and title set forth above, as soon as the same shall have been made known to them.

IN WITNESS WHEREOF, I/we hereunto set my/our hand(s) and seal(s):

Inventor's Signature	Date
NING GE	
Inventor's Typed Name	and the second of the second o
fly.	30 JUNE 2013
Inventor's Signature	Date
Chaw Sing Ho	
Inventor's Typed Name	
•	

Page 1 of 2

HEWLETT-PACKARD COMPANY Intellectual Property Administrator 3404 E. Harmony Road Mail Stop 35 Fort Collins. Colorado 80528	PATENT APPLICATION RECORD ID: 83206235
	ENT APPLICATION (cont.)
Main CM	6/27/2013
Inventor's Signature	Date /
Adam L Ghozeil Inventor's Typed Name	4/27/2013
Inventor's Signature	Date
Michael W Cumbie Inventor's Typed Name	······································
Inventor's Signature	Date
Inventor's Typed Name	
Inventor's Signature	Date
Inventor's Typed Name	
Inventor's Signature	Date
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Inventor's Signature	Date
Inventor's Typed Name	

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PATENT REEL: 037016 FRAME: 0148

Rev 1/ 2013 (Assignment)