PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5497082

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
NING GE	11/21/2016
STEVEN J. SIMSKE	11/21/2016
CHANDRAKANT PATEL	11/23/2016
JUN ZENG	11/21/2016
PAUL J. BENNING	12/16/2016
LIHUA ZHAO	11/21/2016

RECEIVING PARTY DATA

Name:	Hewlett-Packard Development Company, L.P.	
Street Address:	1445 Compaq Center Drive West	
City:	Houston	
State/Country:	TEXAS	
Postal Code:	77070	

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16345853

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.

Correspondent Name: HP INC.

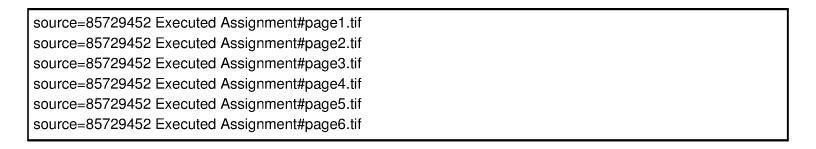
Address Line 1: 3390 E. HARMONY ROAD MS 35
Address Line 4: FORT COLLINS, COLORADO 80528

ATTORNEY DOCKET NUMBER:	85729452
NAME OF SUBMITTER:	TRACY J. KIMMEL
SIGNATURE:	/Tracy J. Kimmel/
DATE SIGNED:	04/29/2019

Total Attachments: 6

PATENT REEL: 049020 FRAME: 0493

505450281



PATENT REEL: 049020 FRAME: 0494

HP Inc.
3390 E. Harmony Road
Mail Stop 35
Fort Collins, Colorado 80528

Rev 8/2014 (Assignment)

PΔ	TEN	UT	ΔP	PI	IC	ΔT	10	N

RECORD ID:	84517624

ASSIGNMENT OF PATENT APPLICATION

and in furtherand Limited Partnersl subsidiaries and a	ce of my/our obligations to HEWLI hip having its principal place of b affiliates, agree to assign and transfe	the receipt of which is hereby acknowledged ETT-PACKARD DEVELOPMENT COMPANY, L.P., a Texas usiness in Houston, Texas, (hereinafter HPDC), and to its and hereby assign and transfer to HPDC, its successors and the right of priority, in, to and under an application for Patential
ARRANGEMENT	DETERMINATION FOR 3D FABRI	
Filing Date:	December 19, 2016	Application No.: PCT/US2016/067527
divisionals, and re	enewals of and substitutes for said a	ein, and any and all continuations, continuations-in-part (C-I-P's) pplication for said Patent, and any and all other Patent of any efore; and any reissues, or reexaminations, or extensions of said
by HPDC, its succeedant respectively	cessors, assigns, nominees or legal re	in my/our name for Patent in any country, to be held and enjoyed presentatives, to the full end of the term or terms for which said ed, as fully and entirely as the same would have been held and een made;
executed and will time a request is n perfect the title to nominees or legal said invention(s) o papers, to execute rightful oaths and o legal representative	not execute any agreement in conflict nade, and without undue delay, execut said invention(s) or improvement(s), so representatives, and I/we agree to coor improvement(s), said application and all disclaimers and divisionals, condeclarations, and generally to do every tes to obtain and enforce, for its or than and all countries provided the expe	convey the entire interest herein assigned, and that I/we have not herewith, and I/we further covenant and agree that I/we will, each e and deliver all such papers as may be necessary or desirable to aid application and said Patent, to HPDC, its successors, assigns municate to HPDC, or to its nominee, all known facts respecting a said Patent, to testify in any legal proceedings, to sign all lawfut tinuations, C-I-P's, reissue and foreign applications, to make althing possible to aid HPDC, its successors, assigns, nominees and heir own benefit, proper patent protection for said invention(s) of enses which may be incurred by me/us in lending such cooperation
applications as afoinvention(s) or im	presaid, to issue to HPDC, as assigne	of any country or countries whose duty it is to issue patents or e of the entire right, title and interest, any and all Patent for sak and granted on or as a result of the application aforesaid, in
		record to insert the filing date and application number of said dittle set forth above, as soon as the same shall have been made
IN WITNESS	WHEREOF, I/we hereunto set my/or	ur hand(s) and seal(s):
1gor	Sin	1/W 21, 2016
Inventor's Signature		Date
Ning	GE	
First/Middle Name	Last Name	againes, planadas and anticles, an area a
Inventor's Signature		Date
Steven J.	SIMSKE	
First/Middle Name	Last Name	

Page 1 of 2

PATENT REEL: 049020 FRAME: 0495

HP Inc. 3390 E. Harmony Ro	ad				PATENT AF	PPLICATION
Mail Stop 35 Fort Collins, Colorado	80528		RECOR	D ID:	84517624	ļ
		4.0010NH4ENT.	SE DATELIT ADDI I	CATIO	· B.I	
and in furtherance Limited Partnershi subsidiaries and at	of my/our b having its filiates, agre	h), for good and valu obligations to HEW principal place of e to assign and trans	LETT-PACKARD DI business in Housto afer and hereby assig	ne receip EVELOP on, Texa on and tr	ot of which is hereby accepted by accepted	P., a Texas), and to its ccessors and
ARRANGEMENT	DETERMINA	ATION FOR 3D FAB	RICATED PARTS			
Filing Date:	Decer	mber 19, 2016	Application	No.: _	PCT/US2016/06	7527
divisionals, and rer	lewals of an	d substitutes for said	application for said	Patent,	uations, continuations-in and any and all other reexaminations, or exte	Patent of any
by HPDC, its succe Patent respectively	ssors, assigr may be grar	ns, nominees or legal	representatives, to the nded, as fully and en	ne full en	in any country, to be he nd of the term or terms the same would have	for which said
executed and will n time a request is m perfect the title to s nominees or legal r said invention(s) or papers, to execute rightful oaths and de- legal representative	ot execute ar ade, and with aid invention epresentative improvement all disclaime eclarations, a s to obtain a iny and all co	ny agreement in confliction out undue delay, exercises, or improvement(s), as, and I/we agree to a t(s), said application agreement divisionals, conditionally to do even and enforce, for its or outries provided the exercises.	ct herewith, and I/we cute and deliver all such asaid application and communicate to HPDC and said Patent, to test continuations, C-I-P's, erything possible to aid their own benefit, pr	further of the paper said Pate C, or to it stify in an item reissue it HPDC, roper pate characteristics.	nerein assigned, and that overnant and agree that it is as may be necessary ent, to HPDC, its succests nominee, all known from the succeedings, to and foreign application its successors, assigns, tent protection for said d by me/us in lending successors.	I/we will, each or desirable to ssors, assigns acts respecting sign all lawfu as, to make all nominees and invention(s) o
applications as afor	esaid, to issurovement(s)	ue to HPDC, as assig which may be issue	nee of the entire righ	t, title ar	s whose duty it is to isond interest, any and all result of the application	Patent for said
I/we further at application for Pate known to them.	uthorize and ht, now identi	direct the attorneys fied by the Record ID	of record to insert the and title set forth above	ne fili n g ve, as so	date and application roon as the same shall ha	umber of said ave been mad
IN WITNESS \	WHEREOF, I/	we hereunto set my	our hand(s) and sea	al(s):		

Date Inventor's Signature GE Ning Last Name First/Middle Name 21 November 2016 Inventor's Signature SIMSKE Steven J. First/Middle Name Last Name Page 1 of 2

Rev 8/2014 (Assignment)

HP Inc. 3390 E. Harmony Road Mail Stop 35

PATENT APPLICATION

Mail Stop 35 Fort Collins, Colorado 80528		REC	ORD ID:	84517624	
A 1	ASSIGNMENT C	F PATENT APPLI	CATION (c	ont.)	
PALATI	1		·	1/23/20	6
nventor's Signature	·····		Date		<i>.</i> "
Chandrakant	PATEL				
First/Middle Name	Last Name			•*	
				e e	
					~,,
Inventor's Signature			Date		
Jun	ZENG				
First/Middle Name	Last Name				
		10 (10 m)			
Inventor's Signature	······································		Date		
Paul J.	BENNING				
First/Middle Name	Last Name		•		
Inventor's Signature			Date	and the state of t	
Lihua	ZHAO				
First/Middle Name	Last Name		•	•	
Inventor's Signature			Date		
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					
First/Miridle Name	Last Name				
THE STANDARD CONTROL	20001701110				
				en general de la companya de la comp	
Inventor's Signature			Date		
First/Middle Name	Last Name	***************************************	- -		

Rev 8/2014 (Assignment)

HP Inc. 3390 E. Harmony Road Mail Stop 35 Fort Collins, Colorado 80528

PATENT APPLICATION

Fort Collins, Colorado 80528		RECORD ID: 84517624
	ASSIGNMENT OF PATE	NT APPLICATION (cont.)
nventor's Signature		Date
<u> Thandrakant</u>	PATEL	
irst/Middle Name	Last Name	11/21/2016
nventor's Signature		Date
ันก	ZENG	
irst/Middle Name	Last Name	
nventor's Signature		Date
Paul J.	BENNING	
irst/Middle Name	Lact Name	
nventor's Signature		Date
Lihua	ZHAO	
irst/Middle Name	Last Name	
nventor's Signature		Date
First/Middle Name	Last Name	
nventor's Signature		Date
First/Middle Name	Last Name	

Rev 8/2014 (Assignment)

HP Inc.
3390 E. Harmony Road
Mail Stop 35
Fort Collins, Colorado 80528

PATENT APPLICATION

Mail Stop 35 Fort Collins, Colorado 80528		RECORD ID:	84517624
	ASSIGNMENT OF PAT	TENT APPLICATION (cont	to)
nventor's Signature		Date	
Chandrakant	PATEL.		
First/Middle Name	Last Name		
nventor's Signature		Date	
lun	ZENG		
First/Middle Name	Last Name		
ACH PE		Dec 1	5, 20/6
Inventor's Signature	***************************************	Date	······································
Paul J.	BENNING		
First/Middle Name	Last Name	······································	
Inventor's Signature		Date	
Lihua:	ZHAO	*	
First/Middle Name	Last Name		
Inventor's Signature		Date	
First/Middle Name	Last Name		
Inventor's Signature		Date	
First/Middle Name	Last Name	······································	

HP Inc.
3390 E. Harmony Road
Mail Stop 35
Fort Collins, Colorado 80528

PATENT APPLICATION

Mail Stop 35 Fort Collins, Colorado 80528		RECORD ID: 84517624	
	ASSIGNMENT OF PA	TENT APPLICATION (cont.)	
		Data	
nventor's Signature		Date	
Chandrakant	PATEL		
irst/Middle Name	Last Name		
nventor's Signature		Date	
lun	ZENG		
First/Middle Name	Last Name		
Inventor's Signature		Date	
Paul J.	BENNING		
First/Middle Name	Last Name		
ARG		11/21/2016	
Inventor's Signature	who will be a second of the se	Date	
Lihua	ZHAO	·	
First/Middle Name	Last Name		
		· ·	
Inventor's Signature		Date	
First/Middle Name	Last Name		
Inventor's Signature		Date	·····
First/Middle Name	Last Name		

Rev 8/2014 (Assignment)