HIS DEPARTMENT OF COMMERCE

ATTORNEY DOCKET NO. 200803341-1	Patent and Trademark Office			
RECORDATION FORM COVER SHEET				
PATENTS ONLY				
Name of conveying party(ies): Wei Wu	2. Name and address of receiving party(ies):			
Alexandre M. Bratkovski Shih-Yuan Wang	HEWLETT-PACKARD DEVELOPMENT COMPANY, L.P. 11445 Compaq Center Drive West Houston, TX 77707			
Jingjing Li				
Qiangfei Xia				
Additional name(s) of conveying party(ies) attached? ☐Yes ☒No	a Additional name(s) and address(es) attached? □Yes ☑No			
3. Nature of Conveyance:	of Name Security Agreement Joint			
Execution Date(s):04/29/2009; 04/30/2009; 04/28/2009; 05/08/2009; 05/05/2009				
4. Application number(s) or patent number(s): If this document is being filed together with a new application, execution date of the application is:				
A. Patent Application No.(s)				
Application No.: 12/387,169 Date Filed	l: April 29, 2009			
Confirmation No.: 7892 B. Patent No.(s):				
Additional numbers attached? NO				
5. Name and address of party to whom correspondence	6. Total number of applications and patents involved:1			
concerning document should be mailed:	7. Total Fee (37 CFR 3.41): \$40.00			
Records Manager Intellectual Property Administration	Enclosed			
HEWLETT-PACKARD COMPANY	X Authorization to be charged to deposit account.			
P.O. Box 272400 Fort Collins, Colorado 80527-2400	8. Deposit Account Number: 08-2025			
9. Statement and signature.	<u> </u>			
To the best of my knowledge and belief, the foregoing Information is true and correct and any attached copy is a true copy of the original document.				
Richard L. Bell Name of Person Signing	July 20, 2009 Date			
Total number of pages including coversheet, attachments, and documents:4				
Documents to be recorded (including cover sheet Mail Stop Assignment Recordation Services, Director of	et) should be faxed to (571) 273-0140, or mailed to: f the USPTO, P.O. Box 1450, Alexandria, V.A. 22313-1450			
Page 1 of 1				

Rev 11/08 (RecdAsgn)

HEWLETT-PACKARD COMPANY Intellectual Property Administrator P.O. Box 272400 Fort Collins, Colorado 80527-2400 PATENT APPLICATION

ATTORNEY DOCKET NO. 200803341-1

ASSIGNMENT OF PATENT APPLICATION

IAWe, the undersigned (each) have agreed and hereby agree to assign to HEWLETT-PACKARD DEVELOPMENT COMPANY, L.P., a Texas Limited Partnership having its principal piece of business in Houston, Texas, (hereinafter HPDC), in furtherance of my/our obligations to the Hewlett-Packard Company and its aubsidiaries and affiliates, and do hereby 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 Letters Patent of the United States entitled:

NEGATIVE INDEX MATERIAL-BASED MODULATORS AND METHODS FOR FABRICATING THE SAME

Filing Date: 4-29-09 Application No.: 12-3-87, 169
and the invention(s) and improvement(s) set forth therein, and any end all continuations, continuations-in-part (C+P's), divisionals, and renewals of and substitutes for said application for said Letters Patent, and any and all Letters Patent of the United States and of countries foreign thereto which may be granted thereon or therefore; and any reissues, or reexaminations, or extensions of said Letters Patent.

tive additionally authorize HPDC to file applications in my/our name for Letters Patent in any country, to be held and enjoyed by HPDC, its successors, assigns, nominees or legal representatives, to the full end of the term or terms for which said Letters Patent respectively may be granted, reissued or extended, as fully and entirely as the same would have been held and enjoyed by ma/us had this assignment, and transfer not been made;

AND I/we hereby coveriant that I/we have full right to convey the entire interest herein assigned, and that I/we have not executed and will not execute any agreement in conflict herewith, and I/we further coveriant and agree that I/we will, each 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 sald invention(s) or improvement(s), said application and said Letters 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 Letters Patent, to testify in any legal proceedings, to sign all fawful papers, to execute all declarates and divisionals, continuations, C-I-P's, relissue and foreign applications, to make all rightly loaters 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 enforces for its or their own benefit, proper patent protection for said invention(s) or improvement(s) in any and all paid by HPDC;

AND live hereby authorize and request the Commissioner of Patents and Trademarks of the United States and any official of any country or countries foreign to the United States 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 Letters Patent for said invention(s) or improvement(s), including any and all Letters Patent of the United States 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 serial number and filing date of said application now identified by the attorney docket number and title set forth above as soon as the same shall have been made known to them by the United States Patent and Trademark Office.

INWITNESS WHEREO	F, I/we hereunto set my/our hand(s)	and soal(a):	10
(4/29	<u> </u>
Inventor's Signature (Seaf)		Date Assignment Signs	ed .
WeiWh		4/29	709
Inventor's Typed Name		Date Application Signe	d
State of	}		
) 88.:		
County of)		
Before me this day of	, personally appeared	Wei Wu	who is personal
known or proved to me on the t assignment to be his/her free act	easis of satisfactory evidence to be the and deed.	he person who acknowledged	the foregoing instrument of
		Notary Public	
Rév 10/08 (Assignment)	Page 1 of 3	My Commission Ex	pirmet

PATENT REEL: 022982 FRAME: 0292

PATENT APPLICATION HEWLETT-PACKARD COMPANY Intellectual Property Administrator 200803341-1 P.O. Box 272400 ATTORNEY DOCKET NO. Fort Collins, Colorado 80527-2400 ASSIGNMENT OF PATENT APPLICATION (cont.) WHEREOF, I/we hereunto set my/our hand(s) and seeks): Alexandre M. Sysikovski Inventor's Typied Name State of) 55.: County of who is personally Alexandre M. Bratkovski , personally appeared Before me this day of known or proved to me on the bests of selfsticiony evidence to be the person who acknowledged the foregoing instrument of assignment to be his/her free act and deed. Dickey Public My Commission Expires: Shih-Yuan Wang Inventor's Typed Name State of)) 68.: County of who is personally Shin-Yuan Wang , personelly appeared day.of known or proved to me on the basis of satisfactory evidence to be the person who acknowledged the foregoing instrument of assignment to be his/her free ect and deed. National Property My Commission Explicat Inventor's Signature (Seal) Jingjing Li Inventor's Typed Name State of County of who is personally , personally appeared Jingling Li day of brown or proved to me on the basis of satisfactory evidence to be the person who acknowledged the foregoing instrument of assignment to be his/her free act and deed. Healing Public My Commission Expires. Page 2 of 3

Ray 10/05 (Assignment)

PATENT REEL: 022982 FRAME: 0293

PATENT APPLICATION HEWLETT-PACKARD COMPANY Intellectual Property Administrator 200803341-1 P.O. Box 272400 ATTORNEY DOCKET NO. Fort Collins, Colorado 80527-2400 ASSIGNMENT OF PATENT APPLICATION (cont.) ATHEREOF, I have hereunto net my/our hand(s) and seek(s): Date Assignment Clongiel XIII Inventor's Typed Name Date Application Signed State of 155.7 County of , personally appeared who is personally Cianglei Xia Before me this day of known or proved to me on the basis of satisfactory evidence to be the person who acknowledged the foregoing instrument of assignment to be his/her free act and deed. Notice Public My Commission Explicit Date Assignment Signed Inventor's Signature (See) Date Application Signed Inventor's Typed Neme State of) County of who is personally , personally appeared Before me this day of known or proved to me on the basis of satisfactory evidence to be the person who acknowledged the foregoing instrument of assignment to be lifether free act and deed. PARKET PUBLIC My Commission Expires. Date Assignment Signed Inventor's Signature (Seal) **Data Application Signed** inventor's Typed Name State of County of who is personally , personally appeared Before me tika day of tenoms or proved to me on the basis of satisfactory evidence to be the person who acknowledged the foregoing instrument of assignment to be fils/her free act and deed. Name Park My Controlstion Expires: Page 3 of 3 Rw/ 10/06 (Assignment)

> PATENT REEL: 022982 FRAME: 0294

RECORDED: 07/20/2009