Docket No.: SLA0496 09-13-2001 FORM PTO-1595 (Modified) EET U.S. DEPARTMENT OF COMMERCE (Rev. 6-93) OMB No. 0651-0011 (exp.4/94) Patent and Trademark Office Copyright 1994-97 LegalStar P08/REV02 101841768 Tab settings → → To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof. 1. Name of conveying party(ies): Name and address of receiving party(ies): Wei Pan, David R. Evans and Sheng Teng Hsu Name: Sharp Laboratories of America, Inc. Internal Address: Additional names(s) of conveying party(ies) Nature of conveyance: ☐ Merger Street Address: 5750 NW Pacific Rim Boulevard ☐ Security Agreement ☐ Change of Name Other City: Camas State: WA ZIP: 98607 Execution Date: (Pan/Evans, 8/22/01) (Hsu, 8/27/01) 4. Application number(s) or registration numbers(s): If this document is being filed together with a new application, the execution date of the application is: August 27, 2001 A. Patent Application No.(s) B. Patent No.(s) Additional numbers attached? ☐ Yes **⊠** No 5. Name and address of party to whom correspondence 6. Total number of applications and patents involved: concerning document should be mailed: Name: David C. Ripma, Patent Counsel 7. Total fee (37 CFR 3.41):....\$ 40.00 Internal Address: Registration No. 27,672 ☐ Enclosed - Any excess or insufficiency should be credited or debited to deposit account Sharp Laboratories of America, Inc. Authorized to be charged to deposit account Street Address: 5750 NW Pacific Rim Boulevard 8. Deposit account number: 19-1457 ZIP: 98607 State: WA City: Camas DO NOT USE THIS SPACE 00000072 191457 09940739 09/12/2001 DBYRHE

01 FC:581 40.00 CH 9. Statement and signature.

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.

Name of Person Signing

David C. Ripma, Reg. No. 27,672

Signature Total number of pages including cover sheet, attachments, and documents August 27, 2001 Date

ASSIGNMENT

WHEREAS, the undersigned Wei Pan, a resident of Vancouver, WA, David R. Evans, a resident of Beaverton, OR, and Sheng Teng Hsu, a resident of Camas, WA, (hereinafter termed "inventors") have invented certain new and useful improvements in:

THERMAL DENSIFICATION IN THE EARLY STAGES OF COPPER MOCVD FOR DEPOSITING HIGH QUALITY CU FILMS WITH GOOD ADHESION AND TRENCH FILLING CHARACTERISTICS

and have executed a declaration or oath for an application for a United States patent disclosing and identifying the invention:

X	On the <u>22nd</u> day of August, 2001, (Pan and Evans) and on the <u>27th</u> day of August, 2001, (Hsu);		
	Or		
	Said application having been previously filed and assigned Serial Number _/, and filing date		

WHEREAS Sharp Laboratories of America, Inc., a corporation of the State of Washington, (hereinafter termed "Assignee"), having a place of business at 5750 NW Pacific Rim Boulevard, Camas, State of Washington, wishes to acquire the entire right, title and interest in and to said application and the invention disclosed therein, and in and to all embodiments of the invention, heretofore conceived, made or discovered by said Inventors (all collectively hereinafter termed "said invention"), and in and to any and all patents, certificates of invention and other forms of protection thereon (hereinafter termed "patents") applied for or granted in the United States and/or other countries.

NOW THEREFORE, for good and valuable consideration acknowledged by said Inventors to have been received in full from said Assignee:

1. Said Inventors do hereby sell, assign, transfer and convey unto said Assignee, the entire right, title and interest (a) in and to said application and said invention; (b) in and to all rights to apply in any and all countries of the world for patents, certificates of inventions or other government grants on said invention, including

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PATENT REEL: 012144 FRAME: 0743 Convention for the Protection of Industrial property or pursuant to any other convention, treaty, agreement or understanding; (c) in and to any and all applications filed and any and all patents, certificates of inventions or other governmental grants granted on said invention in the United States or any other country, including each and every application filed and each and every patent granted on any application which is a division, substitution, or continuation of any of said applications; (d) in and to each and every reissue or extension of any of said patents; and (e) in and to each and every patent claim resulting from a reexamination certificate for any and all of said patents.

- 2. Said Inventors hereby covenant and agree to cooperate with said Assignee to enable said Assignee to enjoy to the fullest extent the right, title and interest herein conveyed in the United States and other countries. Such cooperation by said inventors shall include prompt production of pertinent facts and documents, giving of testimony, executing of petitions, oaths, specifications, declarations or other papers, and other assistance all to the extent deemed necessary or desirable by said Assignee (a) for perfecting in said Assignee the right, title and interest herein conveyed; (b) for complying with any duty of disclosure; (c) for prosecuting any of said applications; (d) for filing and prosecuting substitute, divisional, continuing or additional applications covering said invention; (e) for filing and prosecuting application for reissue of any of said patents; (f) for interference or other priority proceedings involving said invention; and (g) for legal proceedings involving said invention and any applications therefor and any patents granted thereon, including without limitation opposition proceedings, cancellation proceedings, priority contests, public use proceedings, reexamination proceedings, compulsory licensing proceedings, infringement actions and court actions; provided, however, that the expense incurred by said Inventors in providing such cooperation shall be paid for by said Assignee.
- 3. The terms and covenants of this Assignment shall inure to the benefit of said Assignee, its successors, assigns and other legal representatives, and shall be binding upon said Inventors, said Inventor's heirs, legal representatives and assigns.
- 4. Said Inventors hereby warrant and represent that said Inventors have not entered and will not enter into any assignment, contract, or understanding in conflict herewith.

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IN WITNESS WHEREOF, the said In Assignment on the date given below.	nventor has executed said
(1) Wei Pan, Signature)	8/22/01 (Date)
IN WITNESS WHEREOF, the said In Assignment on the date given below. (2)	nventor has executed said 22/Aug/ol (Date)
IN WITNESS WHEREOF, the said In on the date given below.	ventor has executed said Assignment
(3) Alconglong Issu. (Shong Tong Hsu, Signature)	Aug 27, 2001 (Date)

RECORDED: 08/27/2001

PATENT REEL: 012144 FRAME: 0745