Docket No.: 01640505AA 05-03-2005 FORM PTO-1595 (Modified) U.S. DEPARTMENT OF COMMERCE (Rev. 03-01) Patent and Trademark Office OMB No. 0651-0027 (exp.5/31/2002) P08/RFV03 Tab settings -> -> 102993670 ... The asset record the attached original documents or copy thereof. To the Director of the U d States Patent and Traver 1. Name of conveying party(ies) 2. Name and address of receiving party(ies): Ming Xu Fred C. Lee Name: Virginia Polytechnic Institute and State University Jinghai Zhou Internal Address: ☐ Yes ☒ No Additional names(s) of conveying party(ies) 3. Nature of conveyance: □ Merger Street Address: Security Agreement Change of Name City: Blacksburg State: VA ZIP: 24060 □ Other Execution Date: 03/15/05, 03/15/05, 03/15/05_ Additional name(s) & address(es) attached?

Yes

No 4. Application number(s) or patent numbers(s): If this document is being filed together with a new application, the execution date of the application is: A. Patent Application No.(s) B. Patent No.(s) 11/094,433 filed 03/31/2005 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: Marshall M. Curtis 7. Total fee (37 CFR 3.41):....\$ 40.00 Internal Address: ___ Enclosed - Any excess or insufficiency should be credited or debited to deposit account Authorized to be charged to deposit account Street Address: Whitham, Curtis & Christofferson, P.C. 8. Deposit account number: 50-2041 11491 Sunset Hills Road, Suite 340 _____ State: <u>VA</u> ZIP: 20109 City: Reston (Attach duplicate copy of this page if paying by deposit acount) DO NOT USE THIS SPACE 9. Statement and signature. な the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is ẫrue copy

Mail documents to be recorded with required cover sheet Information to:

Mail Stop Assignment Recordation Services

Director of the United States Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450

PATENT

Total number of pages including cover sheet, attachments, and document:

Signature

of the original document.

Marshall M. Curtis - Reg. No. 33,138

Name of Person Signing

REEL: 016506 FRAME: 0514

April 28, 2005

Date

Docket No.: 016400505AA

ASSIGNMENT

WHEREAS, Ming Xu, Fred C. Lee, and Jinghai Zhou all of Blacksburg, Virginia, (hereinafter referred to as ASSIGNORS), have invented certain new and useful improvements in an invention entitled:

INPUT CURRENT SENSING AVP METHOD FOR FUTURE VRM

for which an application for United States Letters Patent is being filed concurrently; and

WHEREAS, Virginia Polytechnic Institute & State University, (hereinafter referred to as ASSIGNEE), an institute of higher education organized under the laws of the Commonwealth of Virginia, having an office and principal place of business at Blacksburg, Virginia, is desirous of acquiring the entire right, title and interest in, to and under said application and said invention and in, to and under Letters Patent or similar legal protection to be obtained therefor in the United States and in any and all foreign countries.

NOW, THEREFORE, TO ALL WHOM IT MAY CONCERN: Be it known that in consideration of the payment by ASSIGNEE to ASSIGNORS of the sum of One Dollar (\$1.00), the receipt and sufficiency of which is hereby acknowledged, and for other good and valuable consideration, ASSIGNORS hereby sell, assign and transfer to ASSIGNEE, its lawful successors and assigns, the full and exclusive right, title and interest to said invention in the United States and its territorial possessions and in all foreign countries and to all Letters Patent or similar legal protection in the United States and its territorial possessions and in any and all foreign countries to be obtained for said invention by said application or any continuation, division, continuation-in-part, reexamination, renewal, substitute, extension or reissue thereof or any legal equivalent thereof in a foreign country for the full term or terms for which the same may be granted; and authorize and request the Commissioner of Patents of the United States and any official of any foreign country whose duty it is to issue patents or legal equivalents thereto, to issue same for this invention to ASSIGNEE, its lawful successors and assigns.

ASSIGNORS hereby covenant that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this assignment and sale.

ASSIGNORS further covenant that ASSIGNEE will, upon its request, be provided promptly with all pertinent facts and documents relating to said application, said invention and said Letters Patent and legal equivalents in foreign countries as may be known and accessible to ASSIGNORS and will testify as to the same in any interference or litigation related thereto and will promptly execute and deliver to ASSIGNEE or its legal representative any and all papers, instruments or affidavits required to apply for, obtain, maintain, issue and enforce said application, said invention and said Letters Patent and said equivalents thereof in any foreign country which may be necessary or desirable to carry out the purposes thereof.

PATENT REEL: 016506 FRAME: 0515

Docket No.: 016400505AA

Page 2

IN WITNESS WHEREOF, ASSIGNOR has caused the hand of its proper office to be subscribed hereto this 15th day of _________, 2005. Witnessed by: Terwac Shaw Ming Xu IN WITNESS WHEREOF, ASSIGNOR has caused the hand of its proper office to be subscribed hereto this 15th day of MARCH, 2005. Witnessed by: lessa cohaw IN WITNESS WHEREOF, ASSIGNOR has caused the hand of its proper office to be subscribed hereto this 15th day of MARRIA, 2005. Witnessed by: Teresachian

RECORDED: 04/28/2005

PATENT REEL: 016506 FRAME: 0516