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U.S. DEPARTMENT OF COMMERCE Patent and Trademark Office

To the Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof. Name and address of receiving party(ies): Name of conveying party(ies): **Execution Date** (Month/Day/Year) University of Minnesota 450 McNamara Alumni Center 07/16/2003 Georgios B. Giannakis Zhengdao Wang 07/16/2003 200 Oak St. SE Shengli Zhou 07/16/2003 Minneapolis, MN 55455-2070 Additional name(s) of conveying party(ies) attached? Yes No Additional name(s) & address(es) attached? Yes No Nature of conveyance: Submission Type: Assignment Merger New Resubmission (Non-Recordation): Security Agreement Change of Name Document ID# Other: Correction of PTO Error: Reel # Frame # Frame #\_ Corrective Document: Reel # 3 This document is being filed with a new patent application on This document is to be recorded against the following patent application or patent: 10/420,361 Patent Application No.(s) Patent No.(s) Additional numbers attached? 

Yes 

No Name and address of party to whom correspondence concerning Total number of applications and patents involved: 1 document should be mailed: Name: Kent J. Sieffert Total fee (37 CFR 3.41): \$40.00 Shumaker & Sieffert, P.A. Address: □ Enclosed 8425 Seasons Parkway, Suite 105 Authorized to be charged to deposit account St. Paul, MN 55125 Please charge any additional fees or credit any overpayments to our Deposit account number: 50-1778 DO NOT USE THIS SPACE 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. Kent J. Sieffert August 1,2003 Name of Person Signing Reg. No.: 41,312 08/05/2003 ECOOPER 00000007 10420361 Total number of pages of the attached conveyance document including any attachments: 1 01 FC18021 Do not detach this portion Mail documents to be recorded with required cover sheet information to: Commissioner of Patents and Trademarks Mail Stop Assignments Alexandria, VA 22313-1450 Public burden reporting for this sample cover sheet is estimated to average about 30 minutes per document to be recorded, including time for reviewing the

document and gathering the data needed, and completing and reviewing the sample cover sheet. Send comments regarding this burden estimate to the U.S. Patent and Trademark Office, Office of information systems, PK2-1000C, Alexandria, VA 22313-1450, and to the Office of Management and Budget, Paperwork Reduction Project (0651-0011), Washington, D.C. 20503.

Attorney Doc et No.: 1008-006US01/Z02228

## **ASSIGNMENT**

For valuable consideration, we, Georgios B. Giannakis of 2561 Abbey Hill Dr., Minnetonka, Minnesota 55305, Zhengdao Wang of 220 Raphael Ave. #3, Ames, Iowa 50014 and Shengli Zhou of 1111 Hamline Ave. N. #27, St. Paul, Minnesota 55108, hereby assign to: Regents of the University of Minnesota, having a place of business at: 450 McNamara Alumni Center, 200 Oak Street SE, Minneapolis, Minnesota 55455-2070; and its successors and assigns (collectively hereinafter called "the Assignee"), the entire right, title and interest throughout the world in the inventions and improvements which are the subject of an application for United States Patent signed by us, entitled WIRELESS COMMUNICATION SYSTEM HAVING ERROR-CONTROL CODER AND LINEAR PRECODER, filed April 21, 2003, and assigned U.S. Serial Number 10/420,361; this assignment including said application, any and all United States and foreign patents, utility models, and design registrations granted for any of said inventions or improvements, and the right to claim priority based on the filing date of said application under the International Convention for the Protection of Industrial Property, the Patent Cooperation Treaty, the European Patent Convention, and all other treaties of like purposes; and we authorize the Assignee to apply in all countries in our name or in its own name for patents, utility models, design registrations and like rights of exclusion and for inventors' certificates for said inventions and improvements; and we agree for ourselves and our respective heirs, legal representatives and assigns, without further compensation to perform such lawful acts and to sign such further applications, assignments, Preliminary Statements and other lawful documents as the Assignee may reasonably request to effectuate fully this assignment

Date: July 16, 2003

Georgios B. Giannakis

Zwong Zhengdao Wang

Date: 07/(6/03)

RECORDED: 08/04/2003

Shengli Thou

REEL: 014341 FRAME: 0052