FORM PTO-1595 (Substitute) To the Director of the U.S. Patent	08-27-2004 102823859	R SHEET U.S. DEPARTMENT OF COMMERCE V. 2 0 0 1 U.S. Patent Office e attached original documents or copy thereof.
1. Name of conveying party(ies): Donald CHIARULLI and Steven P. L Additional name(s) of conveying party(ies) at		2. Name and address of receiving party(ies): Name: <u>University of Pittsburgh</u>
 3. Nature of conveyance: Assignment Security Agreement Other Execution Date: <u>August 20, 2004</u> 		Address: 200 Gardner Street Conference Center
 Application number(s) or patent If this document is being filed togeth 		ne execution date of the application is: <u>August 20, 2004</u>
A. Patent Application No(s).	_	 Patent No(s).
	I Additional numbers attact	hed? 🗌 Yes 🗵 No
 Name and address of party to w concerning document should be Name: <u>Robert D. Kucler, Esq</u> REED SMITH LLP 	mailed:	 5. Total number of applications and patents involved: 1 7. Total fee (37 CFR 3.41): \$<u>40.00</u> ✓ Enclosed ✓ Authorized to be charged to deposit account ✓ Charge any deficiency to deposit account
Address: <u>P.O. Box 488</u> City: <u>Pittsburgh</u> State: <u>PA</u> Zip: <u>-</u>		 B. Deposit account number: <u>18-0582</u> (Attach duplicate copy of this page if paying by deposit account)
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and correct copy of the original on <u>Robert D. Kucler</u> Name of Person Signing	document.	mation is true and correct and any attached copy is a true August 20, 2004 Date cover sheet, attachments, and document: 3
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Atty. Docket No. 03-405-US

ASSIGNMENT

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WHEREAS, We, Donald M. CHIARULLI and Steven P. LEVITAN, citizens of the United States of America, whose post office addresses are 17 Chapel Ridge Road, Pittsburgh, PA 15238 and 630 South Negley Avenue, Pittsburgh, PA 15232, respectively, have invented and own a certain invention entitled

POWER EFFICIENT, HIGH BANDWIDTH COMMUNICATION USING MULTI-SIGNAL-DIFFERENTIAL CHANNELS

for which an application for Letters Patent of the United States has been executed on even date herewith; and

WHEREAS, UNIVERSITY OF PITTSBURGH, a corporation organized and existing under the laws of the Commonwealth of Pennsylvania and having a place of business at 200 Gardner Street Conference Center, Thackeray & O'Hara Streets, Pittsburgh, PA 15260 (hereinafter referred to as ASSIGNEE), is desirous of acquiring the entire interest in, to and under 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 us of the sum of One Dollar (\$1.00), the receipt of which is hereby acknowledged, and for other good and valuable consideration, we hereby sell, assign and transfer to ASSIGNEE 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 any application or any continuation, divisional, renewal, substitute 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.

> PATENT REEL: 015718 FRAME: 0506

WE 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; and

WE 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 us and we 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.

IN WITNESS WHEREOF, We have hereunto set hand and seal this 20th day of August, 2004.

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Donald M. CHIARULLI

IN WITNESS WHEREOF, We have hereunto set hand and seal this 20th day of August, 2004.

Steven P. LEVITAN

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RECORDED: 08/20/2004