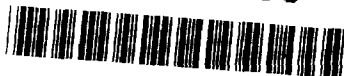


10-13-2000

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To the Honorable Director of the United States Patent and Trademark Office. Please record the attached original documents or copy thereof.

1. Name of conveying party(ies):

(a) Thulasinath Manickam

(b) Sreen Raghavan

(c) Peter J. Sallaway

Additional name(s) of conveying party(ies) attached?

☐ Yes☒ No

2. Name and address of receiving party(ies):

Name: National Semiconductor CorporationStreet Address: 2900 Semiconductor DriveCity: Santa ClaraState: CAZip: 95051Country: USA

3. Nature of Conveyance:

☒ Assignment☐ Merger☐ Security Agreement☐ Change of Name☐ Other _____

Execution Date: _____

Name and address of receiving party(ies):

Name: _____

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City: _____

State: _____

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Country: _____

4. Application number(s) or patent number(s): Application No. 09/561,086

If this document is being filed together with a new application, the execution date of the application is: _____

A. Patent Application No.(s) - n/a

Title: Optimal Signal Processing For Twisted Pair Transceivers

B. Patent No.(s) n/a

Additional numbers attached?

☐ Yes☒ No

5. Name and address of party to whom correspondence concerning document should be mailed:

Name: GARY J. EDWARDSInternal Address: SKJERVEN MORRILL MacPHERSON LLPStreet Address: 25 METRO DRIVE, SUITE 700City SAN JOSE State CA ZIP 951106. Total number of applications and patents involved: 1

7. Total fee (37 CFR 3.41): \$40.00

☒ Authorized to be charged to Deposit Account 19-2386☒ Charge Deposit Account 19-2386 for any additional fees required for this conveyance and credit deposit account 19-2386 any amounts overpaid

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8. 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.

Gary J. Edwards

41,008

Name of Person Signing

Signature

8/1/00
DateTotal number of pages comprising cover sheet: 3

ASSIGNMENT

For good and valuable consideration, receipt of which is hereby acknowledged, we Tulsi Manickam, Sreen Raghavan, and Peter J. Sallaway hereby sell, assign and transfer to National Semiconductor Corporation, a Delaware corporation, having a place of business at 2900 Semiconductor Drive, Santa Clara, California, its successors and assigns, the entire right, title and interest throughout the world in our invention in

Optimal Signal Processing For Twisted Pair Transceivers

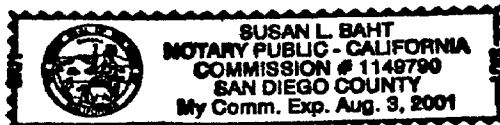
for which we filed a United States Patent Application on 04/28/2000, and now has Serial No. 09/561,086, and all patent applications and patents of every country for said invention, including divisions, reissues, continuations and extensions thereof, and all rights of priority resulting from the filing of said applications; we authorize the above-named assignee to apply for patents of foreign countries for said invention, and to claim all rights of priority without further authorization from us; we agree to execute all papers useful in connection with said United States and foreign applications, and generally to do everything possible to aid said assignee, their successors, assigns and nominees, at their request and expense, in obtaining and enforcing patents for said invention in all countries; and we request the Commissioner of Patents and Trademarks to issue all patents granted for said invention to the above-named assignee, its successors and assigns.

Executed this 27 day of JULY, 2000.

M. L. Thulasinath
Tulsi Manickam
Thulasinath
SB. Manickam

State of CALIF.)
) ss.
County of SAN DIEGO)

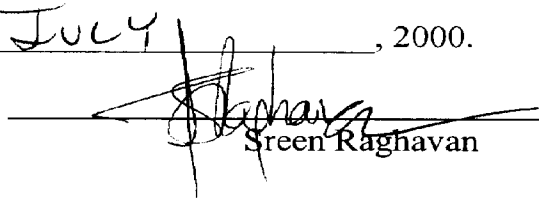
On JULY 27, 2000 before me, SUSAN L. BAHT personally appeared THULASINATH MANICKAM personally known to me or proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is(are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.



WITNESS my hand and official seal.

Susan L. Baht
SIGNATURE OF NOTARY

Executed this 27 day of JULY, 2000.


Sreen Raghavan

State of CALIFORNIA
County of SAN DIEGO) ss.

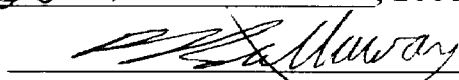
On JULY 27, 2000 before me, SUSAN L. BAHT
personally appeared SREEN RAGHAVAN personally
known to me or proved to me on the basis of satisfactory evidence to be the person(s) whose
name(s) is(are) subscribed to the within instrument and acknowledged to me that he/she/they
executed the same in his/her/their authorized capacity(ies), and that by his/her/their
signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s)
acted, executed the instrument.



WITNESS my hand and official seal.


SIGNATURE OF NOTARY

Executed this 27 day of JULY, 2000.

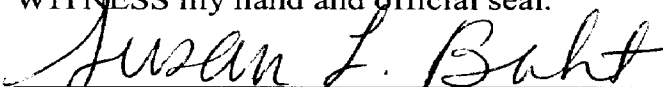

Peter J. Sallaway

State of CALIFORNIA
County of SAN DIEGO) ss.

On JULY 27, 2000 before me, SUSAN L. BAHT
personally appeared PETER J. SALLAWAY personally
known to me or proved to me on the basis of satisfactory evidence to be the person(s) whose
name(s) is(are) subscribed to the within instrument and acknowledged to me that he/she/they
executed the same in his/her/their authorized capacity(ies), and that by his/her/their
signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s)
acted, executed the instrument.



WITNESS my hand and official seal.


SIGNATURE OF NOTARY