

Trademark Office

PATENT

06-30-2003



6-26-03

REC

102485700

Attorney Docket No.: 020661

TO: The Commissioner of Patents and Trademarks: Please record the attached original document(s) or copy(ies).

Submission Type

- New
- Resubmission (Non-Recordation)  
Document ID No.
- Correction of PTO Error  
Reel No. Frame No.
- Corrective Document  
Reel No. Frame No.

Conveyance Type

- Assignment
- Change of Name
- License
- Merger
- Security Agreement
- Other: \_\_\_\_\_

FILED  
JUN 26 2003  
PTO

Conveying Party(ies)

Mark if additional names are attached

NAME

EXECUTION DATE

Month, Day, Year

Ranganathan Krishnan  
Anand D. Subramaniam  
Tamer Kadous

May 16, 2003  
February 26, 2003  
May 16, 2003

Receiving Party

Mark if additional names are attached

Name: QUALCOMM Incorporated  
A Delaware Corporation  
Address (Street number and name): 5775 Morehouse Drive  
Address (City, State, Zip Code): San Diego, California, 92121-1714

Correspondent Name and Address

Name: QUALCOMM Incorporated Telephone Number: (858) 651-1179  
Attn: Sarah Kirkpatrick, Manager, Intellectual Property Administration Facsimile: (858) 658-2502  
Address: 5775 Morehouse Drive  
Address: San Diego, California 92121-1714

Pages (Enter the total number of pages of the attached conveyance document including any attachments)  
Total number of pages: 1

Application Number(s) or Patent Number(s)

If this document is being filed together with a new application, the execution date of the application is: June 4, 2003

Patent Application Number(s):

1.

Patent Number(s):

1.

Patent Cooperation Treaty (PCT)

(Enter only if a U.S. Application Number has not been assigned)

1. PCT/

2. PCT/

Number of Properties (Enter the total number of properties involved)

Total number of properties: 1

Fee Amount

Fee Amount for Properties Listed (37 CFR 3.41): \$40.00

Method of Payment:  Enclosed  Deposit Account

(Enter for payment by deposit account or if additional fees can be charged to the account. A duplicate of this sheet is enclosed for fee processing)

Deposit Account Number: 17-0026

Authorization to charge additional fees:  Yes  No

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. Charges to deposit account are authorized, as indicated herein.

Date: June 23, 2003

Signature:

Name: Sandip (Micky) S. Minhas  
Registration No. 44,945

FOR OFFICE USE ONLY

06/30/2003 ECOOPER 00000022 170026 10375191

01 FC:8021 40.00 DA

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to the Assistant Commissioner for Patents, Alexandria, VA 22313, on:

June 23, 2003

(Date of Deposit)

Courtney Etnyre

(Name of Person Making Deposit)

(Signature)

**ASSIGNMENT**

TO WHOM IT MAY CONCERN:

For the sum of One Dollar and other valuable consideration to us in hand paid, receipt of which is hereby acknowledged, be it known that we, **RANGANATHAN KRISHNAN**, a citizen of India, having a place of residence at 10311 Azuaga Street #43, San Diego, California 92129, **ANAND D. SUBRAMANIAM**, a citizen of India, having a place of residence at 9188 Regents Road, Apt. J, La Jolla, California 92037, and **TAMER KADOUS**, a citizen of Egypt, having a place of residence at 5385 Toscana Way #316, San Diego, California 92122; have sold, assigned and transferred and, by these presents, do sell, assign, transfer and set over unto **QUALCOMM Incorporated**, a Delaware corporation, having a place of business at 5775 Morehouse Drive, San Diego, California 92121-1714, its successors, legal representatives, or assigns, the whole right, title and interest in and to a certain invention relating to:

**TRANSMISSION SCHEMES FOR MULTI-ANTENNA COMMUNICATION SYSTEMS  
UTILIZING MULTI-CARRIER MODULATION**

by us devised and the application for United States Patent therefor filed in the United States Patent and Trademark Office on **February 25, 2003**, and assigned Serial No. **10/375,191** (and we hereby authorize and instruct **QUALCOMM Incorporated** to hereafter complete this Assignment by inserting the serial number in the space provided when known), including, without limitation, all provisional patent applications, and all original and reissue patents granted thereof, and all divisions, and continuations thereof, and all divisions, and continuations thereof, including the subject matter of any and all claims which may be obtained in every such patent, and all foreign rights to said invention, and covenant that we have full right to do so, and agree that we will communicate to said corporation or its representatives all facts known to us respecting said invention, whenever requested, and testify in any legal proceedings, sign all lawful papers, make all rightful oaths and generally do everything possible to aid said corporation, its successors, assigns and nominees, to obtain and enforce proper patent protection for said invention in all countries.

The Commissioner of Patents and Trademarks is requested to issue the Letters Patent which may be granted for said invention or any part thereof unto said corporation in keeping with this Assignment.

Done at San Diego, California this 16 day of May, 2003.

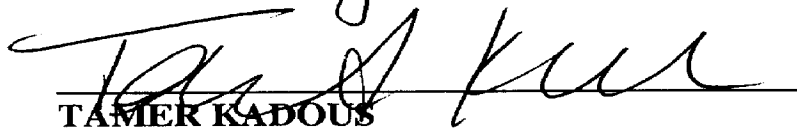
  
\_\_\_\_\_  
**RANGANATHAN KRISHNAN**

Done at San Diego, California this \_\_\_\_\_ day of \_\_\_\_\_, 2003.

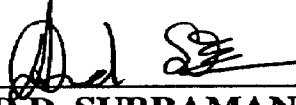
---

**ANAND D. SUBRAMANIAM**

Done at San Diego, California this 16<sup>th</sup> day of May, 2003.

  
**TAMER KADOUS**

Done at San Diego, California this 26<sup>th</sup> day of Feb., 2003.



---

**ANAND D. SUBRAMANIAM**

Done at San Diego, California this \_\_\_\_\_ day of \_\_\_\_\_, 2003.

---

**TAMER KADOUS**