

RE/

11-22-2002  
102290671orney Docket No.: 020570  
or copy(ies).

TO: The Commissioner of Patents and Trademarks: Please record the attached

**Submission Type**

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

11-13-02

**Conveyance Type**

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

**Conveying Party(ies)**☐ Mark if additional names are attached

NAME

**EXECUTION DATE**

Month, Day, Year (MMDDYYYY)

1. KHALED HELMI EL-MALEH
2. ANANTHAPADMANABHAN ARASANIPALAI KANDHADAI
3. SHARATH MANJUNATH
- 4.

11/05/2002

11/05/2002

11/05/2002

**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  
 Attn: Patent Dept.

Telephone Number: (858) 651-4404

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: 4

**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: \_\_\_\_\_

**Patent Application Number(s):**

1. 10/215,533 FILED 08/08/2002

2. \_\_\_\_\_

3.

4.

**Patent Number(s):**

1.

2.

3.

4.

**Patent Cooperation Treaty (PCT)**

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

1. PCT/

3. PCT/

2. PCT/

4. 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): \$

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)

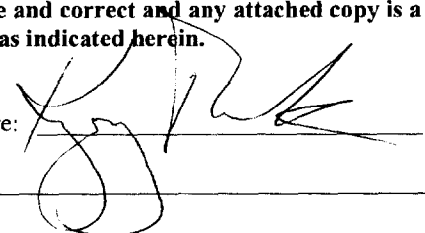
Deposit Account Number: 17-0026

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: November 6, 2002

Name: Kyong H. Macek, Reg. No. 42,977  
 (858) 651-5797

Signature: 

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11/21/2002 LMUELLER 00000224 170026 10215533  
 01 FC:8021 40.00 CH

Page 1 of 1

Customer No. 23696

**PATENT**  
**REEL: 013500 FRAME: 0215**

# 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 **KHALED HELMI EL-MALEH**, a citizen of Canada having a place of residence at **7675 PALMILLA DRIVE # 6314, SAN DIEGO, CALIFORNIA 92122**; **ANANTHAPADMANABHAN ARASANIPALAI KANDHADAI**, a citizen of India having a place of residence at **10187 CAMINO RUIZ #127, SAN DIEGO, CALIFORNIA 92126**; and **SHARATH MANJUNATH**, a citizen of India having a place of residence at **11184 VISTA SORRENTO PARKWAY, 205, SAN DIEGO, CALIFORNIA 92130**; 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 a **BANDWIDTH-ADAPTIVE QUANTIZATION** by us devised and the application for United States Patent therefor filed in the United States Patent and Trademark Office on **08/08/2002**, and assigned Application Serial No. **10/215,533**, and all original and reissue patents granted 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.

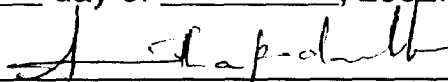
The Commissioner of Patents and Trademarks is requested to issue the Letters Patent which may be granted for said invention or any part thereof unto said corporation in keeping with this Assignment.

Done at San Diego, California this 5<sup>th</sup> day of November, 2002.



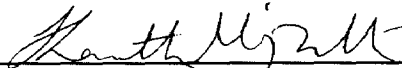
KHALED HELMI EL-MALEH

Done at San Diego, California this 5<sup>th</sup> day of NOVEMBER, 2002.



ANANTHAPADMANABHAN ARASANIPALAI  
KANDHADAI

Done at San Diego, California this 5<sup>th</sup> day of NOVEMBER, 2002.



SHARATH MANJUNATH