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To the Director of the Patent and Trademark Office:  
Please record the attached documents or the new address(es) below.

Attorney Dkt. No.: 042933/295015

1. Name of conveying party(ies):

1. Jianzhong (Charlie) Zhang
2. Kiran Kuchi
3. Ari Hottinen

Additional name(s) of conveying party(ies) attached? Yes ☐ No ☒

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

Nokia Corporation  
Keilalahdentie 4  
FIN-02150 Espoo  
Finland

Additional name(s) & address(es) attached? Yes ☐ No ☒

113219 U.S. PTO  
11/214323  
082905

3. Nature of conveyance/ Execution Date(s):

Execution Date(s) (1), (2) July 27, 2005; (3) August 1, 2005

- ☒ Assignment ☐ Merger  
☐ Security Agreement ☐ Change of Name  
☐ Joint Research Agreement  
☐ Government Interest Assignment  
☐ Executive Order 9424, Confirmatory License  
☐ Other \_\_\_\_\_

4. Application or patent number(s):

A. Patent Application No(s) To be assigned

B. Patent No.(s)

☒ This document is being filed together with a new application. Additional numbers attached? Yes ☐ No ☒

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

**ALSTON & BIRD LLP**  
Bank of America Plaza  
101 South Tryon Street, Suite 4000  
Charlotte, NC 28280-4000

6. Total number of applications and patents involved:

One (1)

7. Total fee (37 CFR 1.21(h) & 3.41) \$40.00

- ☒ Enclosed  
☐ Authorized to be charged to deposit account  
☐ None required (government interest not affecting title)

8. Deposit account number: 16-0605

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9. 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.*

Name of Person Signing: Andrew T. Spence

Reg. No. 45,699

8/29/05  
Date

Total number of pages including cover sheet, attachments, and documents: Five (5)

USPTO Fax Number for New Assignments (703) 306-5995

CLT01/4734429v1

09/02/2005 ECOOPER 00000037 11214323 40.00 DP

PATENT  
REEL: 016929 FRAME: 0192

## ASSIGNMENT

THIS ASSIGNMENT, made by us, Jianzhong (Charlie) Zhang, citizen of China, residing at 504 Renfro Court, Irving, Texas 75063; Kiran Kuchi, citizen of India, residing at 908 Meadow Creek Drive, No. 3082, Irving, Texas 75038; and Ari Hottinen, citizen of Finland, residing at Ristiniementie 4 o 30, FIN-02320 Espoo, Finland, respectively;

WITNESSETH: That,

WHEREAS, we are the joint inventors of certain new and useful improvements in SYSTEM AND METHOD FOR SPACE-TIME-FREQUENCY CODING IN A MULTI-ANTENNA TRANSMISSION SYSTEM for which an application for United States Letters Patent has been executed by us concurrently herewith,

WHEREAS, NOKIA CORPORATION, a Finland corporation having a principal place of business at Keilalahdentie 4, FIN-02150 Espoo, Finland, hereinafter referred to as assignee, is desirous of acquiring the entire right, title, and interest in and to said invention as described in said application, and in and to any and all Letters Patent which shall be granted therefor in the United States of America and all foreign countries;

NOW, THEREFORE, To Whom It May Concern, be it known that for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, we have sold and by these presents do hereby sell, assign, transfer, and convey unto the said assignee, its successors and assigns, the entire right, title, and interest in and to the said invention and application, and in and to any and all continuations, continuations-in-part, or divisions thereof, and in and to any and all Letters Patent of the United States of America and all foreign countries or reissues, reexaminations, or extensions thereof which may be granted therefor or thereon, for the full end of the term for which said Letters Patent may be granted, together with the right to claim the priority of said application in all foreign countries in accordance with the International Convention, the same to be held and enjoyed by said assignee, its successors and assigns, as fully and entirely as the same would have been held and enjoyed by me if this assignment and sale had not been made.

We hereby request that said Letters Patent be issued in accordance with this assignment.

We further covenant and agree that, at the time of the execution and delivery of these presents, we possess full title to the invention and application above-mentioned, and that we have the unencumbered right and authority to make this assignment.

We further covenant, and agree to bind our heirs, legal representatives, and assigns, promptly to communicate to said assignee or its representatives any facts known to us relating to said invention, to testify in any interference or legal proceedings involving said invention, to execute any additional papers which may be requested to confirm the right of the assignee, its representatives, successors, or assigns to secure patent or similar protection for the said invention in all countries and to vest in the assignee complete title to the said invention and Letters Patent, without further compensation, but at the expense of said assignee, its successors, assigns, and other legal representatives.

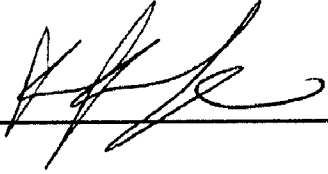
IN WITNESS WHEREOF, we have hereunto set our hands and seals on this 15th  
day of July, 2005.

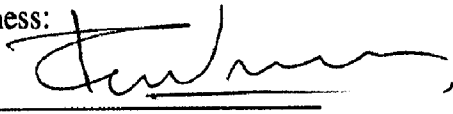
  (SEAL)  
Jianzhong (Charlie) Zhang

Witness:




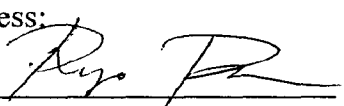
IN WITNESS WHEREOF, we have hereunto set our hands and seals on this 15<sup>th</sup>  
day of July, 2005.

 (SEAL)  
Kiran Kuchi

Witness: 

IN WITNESS WHEREOF, we have hereunto set our hands and seals on this 1<sup>st</sup>  
day of August, 2005.

  
\_\_\_\_\_(SEAL)  
Ari Hottinen

Witness:  
  
\_\_\_\_\_  
PIRKO PASANEN

CLT01/4727103v1