

PATENT ASSIGNMENT

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SUBMISSION TYPE:	NEW ASSIGNMENT								
NATURE OF CONVEYANCE:	ASSIGNMENT								
CONVEYING PARTY DATA									
<table border="1"> <thead> <tr> <th>Name</th> <th>Execution Date</th> </tr> </thead> <tbody> <tr> <td>Christian Bergljung</td> <td>12/12/2011</td> </tr> <tr> <td>Matthias Kamuf</td> <td>12/12/2011</td> </tr> </tbody> </table>		Name	Execution Date	Christian Bergljung	12/12/2011	Matthias Kamuf	12/12/2011		
Name	Execution Date								
Christian Bergljung	12/12/2011								
Matthias Kamuf	12/12/2011								
RECEIVING PARTY DATA									
<table border="1"> <tr> <td>Name:</td> <td>Telefonaktiebolaget LM Ericsson (publ)</td> </tr> <tr> <td>Street Address:</td> <td>SE-164 83</td> </tr> <tr> <td>City:</td> <td>Stockholm</td> </tr> <tr> <td>State/Country:</td> <td>SWEDEN</td> </tr> </table>		Name:	Telefonaktiebolaget LM Ericsson (publ)	Street Address:	SE-164 83	City:	Stockholm	State/Country:	SWEDEN
Name:	Telefonaktiebolaget LM Ericsson (publ)								
Street Address:	SE-164 83								
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PROPERTY NUMBERS Total: 2									
<table border="1"> <thead> <tr> <th>Property Type</th> <th>Number</th> </tr> </thead> <tbody> <tr> <td>Application Number:</td> <td>13320498</td> </tr> <tr> <td>Application Number:</td> <td>61181085</td> </tr> </tbody> </table>		Property Type	Number	Application Number:	13320498	Application Number:	61181085		
Property Type	Number								
Application Number:	13320498								
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CORRESPONDENCE DATA									
Fax Number:	(919)854-2084								
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<i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent via US Mail.</i>									
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ATTORNEY DOCKET NUMBER:	40157856								
NAME OF SUBMITTER:	Stephen A. Herrera								
<p>Total Attachments: 6</p> <p>source=40157856ASSIGNMENT#page1.tif</p> <p>source=40157856ASSIGNMENT#page2.tif</p> <p>source=40157856ASSIGNMENT#page3.tif</p> <p>source=40157856ASSIGNMENT#page4.tif</p> <p>source=40157856ASSIGNMENT#page5.tif</p> <p>source=40157856ASSIGNMENT#page6.tif</p>									

OP \$80.00 13320498

**RECORDATION FORM COVER SHEET
PATENTS ONLY**

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

1. Name of conveying party(ies)

Bergljung, Christian
Kamuf, Matthias

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

2. Name and address of receiving party(ies)

Name: Telefonaktiebolaget LM Ericsson (publ)

Internal Address: _____

Street Address: SE-164 83

City: Stockholm

State: _____

Country: Sweden Zip: _____

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

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

Execution Date(s) December 12, 2011

- 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):

This document is being filed together with a new application.

A. Patent Application No.(s)

13/320,498
61/181,085

B. Patent No.(s)

Additional numbers attached? Yes No

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

Name: Stephen A. Herrera

Internal Address: _____

Street Address: 1400 Crescent Green, Ste. 300

City: Cary

State: North Carolina Zip: 27518

Phone Number: 919-854-1844

Fax Number: 919-854-2084

Email Address: uspto-assignments@coatsandbennett.com

6. Total number of applications and patents involved: 2

7. Total fee (37 CFR 1.21(h) & 3.41) \$80.00

- Authorized to be charged by credit card
 Authorized to be charged to deposit account
 Enclosed
 None required (government interest not affecting title)

8. Payment Information

a. Credit Card Last 4 Numbers _____
Expiration Date _____

b. Deposit Account Number 181167

Authorized User Name Tami Purdue

9. Signature:

/Stephen A. Herrera Reg. No. 47642/

December 16, 2011

Signature

Date

Stephen A. Herrera
Name of Person Signing

Total number of pages including cover sheet, attachments, and documents: 6

4015-7856

Documents to be recorded (including cover sheet) should be faxed to (571) 273-0140, or mailed to:
Mail Stop Assignment Recordation Services, Director of the USPTO, P.O.Box 1450, Alexandria, V.A. 22313-1450

ASSIGNMENT

This Assignment is made by:

BERGLJUNG, Christian

**Trädgårdsgatan 9E
SE-223 53 LUND
Sweden**

KAMUF, Matthias

**Byggmästaregatan 8A
SE-222 37 Lund
Sweden**

(hereinafter referred to as "Assignor(s)") in favor, and for the benefit and behoof of, Telefonaktiebolaget L M Ericsson (publ), a corporation duly organized under and pursuant to the laws of Sweden and having its principal place of business at SE-164 83 Stockholm, Sweden (hereinafter referred to as "Assignee").

For good, sufficient and adequate consideration, the receipt of which is hereby acknowledged, the Assignor(s) have, as of the Effective Date, sold, assigned, transferred, and set over, and by these presents, and to the extent any transferable or assignable rights still remain with the inventor, do hereby sell, assign, transfer, and set over, unto the Assignee, its successors, legal representatives, and assigns the entire right, title, and interest in and to the following inventions, application(s) for Letters Patent, and any and all Letters Patent or Patents in all countries and pursuant to all multilateral treaty organizations, including Sweden, the United States of America, the Patent Cooperation Treaty and European Patent Convention, that may be granted therefor and thereon, and in and to any and all divisions, continuations, continuations-in-part, conversions and utility models of said application(s), and reissues and extensions of said Letters Patent or Patents, the same to be held and enjoyed by the Assignee, for its use and behoof and the use and the behoof of its successors, legal representatives, and assigns, to the full end of the term or terms for which Letters Patent, Patents and Utility Models may be granted as fully and entirely as the same would have been held and enjoyed by the Assignor(s) had this sale and assignment not been made:

CONTROL CIRCUIT AND METHOD FOR ALLOCATING ORTHOGONAL SEQUENCES

including, but not limited to, the application(s) for Letters Patent and Utility Model filed in:

Country Code	Priority Application(s)	Filing Date(s)
US	13/320498	2010-05-06
US	61/181085	2009-05-26
EP	09160629.3	2009-05-19

The Effective date is the earliest date of the above listed Filing Date(s).

Assignor(s) hereby authorize and request Assignee's Attorneys to insert the serial number and filing date of said application(s) for Letter Patent or Utility Model, when known. The assignment of the above mentioned rights includes a transfer of the whole right to use a priority (including priority according to any convention, multilateral agreement, bilateral agreement and national law) of the above mentioned application(s) for Letter Patent and Utility Model in all countries and multilateral treaty organizations wherein no residual rights shall remain with the Assignor(s). Assignor(s) hereby request that said Letters Patent, Patent or Utility Model be issued to Assignee as the Assignee of

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said inventions, the Letters Patent, Patent or Utility Model to be issued for the sole use and behoof of the Assignee, its successors, legal representatives, and assigns. Assignee alone hereinafter has the entire disposal of the invention and possesses entire ownership to any domestic and foreign patents or utility models granted thereafter. The rights granted hereunder shall include all rights to institute legal actions, obtain remedies and recover and retain damages in respect to said Letters Patent, Patent or Utility Model.

The Assignor(s) and Assignee hereby understand and agree that with the execution of this Assignment, to the extent necessary or appropriate, national and/or regional applications may be filed by the Assignee as the applicant and on behalf of the assignor.

To the extent Assignee is entitled to receive the rights hereunder pursuant to this Assignment, each of the Assignor(s) hereby covenants and agrees to and with the Assignee, its successors, legal representatives, and assigns, that, at the time of the Effective Date, the Assignor(s) were the sole and lawful owners of the entire right, title, and interest in and to the inventions and application(s) for Letters Patent or Utility Models above-mentioned, and that the same are unencumbered, and that the Assignor(s) have good and full right and lawful authority to sell and convey the same in the manner herein set forth.

Further, and for the same consideration, the Assignor(s) hereby covenant(s) and agree(s) to and with the Assignee, its successors, legal representatives, and assigns that the Assignor(s) will, whenever counsel of the Assignee, or the counsel of its successors, legal representatives, and assigns, shall advise that any proceeding in connection with said inventions or said application(s) for Letters Patent, or any proceeding in connection with Letters Patent or Utility Model for said inventions, in any country and any multilateral treaty organization, including interference proceedings, is lawful and desirable, or that any division, continuation, continuation-in-part, conversion or Utility Model of any application(s) for Letters Patent or Utility Model, or any reissue or extension of any Letters Patent to be obtained thereon, is lawful and desirable, sign all papers and documents, take all lawful oaths, and do all acts necessary or required to be done for the procurement, maintenance, enforcement, and defense of Letters Patent or Utility Model for said inventions, without charge to Assignee, its successors, legal representatives, and assigns, but at the cost and expense of the Assignee, its successors, legal representatives, and assigns. If any of the Assignor(s) is prevented by any obstacles from signing said documents in person, this Assignment shall be valid as a Power of Attorney for the Assignee to sign these documents on behalf of any such Assignor(s) or, in the event of the death of the latter, the estate thereof.

This Assignment shall be governed by and construed under, and any dispute, controversy or claim related hereto shall be decided in accordance with, the laws of:

Sweden

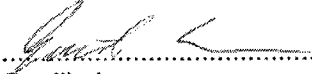
without regard to the conflicts of laws provisions thereof. Any dispute, controversy or claim arising under, out of or relating to this Assignment and any subsequent amendments of this Assignment, including, without limitation, its formation, validity, binding effect, interpretation, performance, breach or termination, as well as non-contractual claims, shall be referred to and finally determined by arbitration in accordance with the WIPO Arbitration Rules. The arbitral tribunal shall consist of a sole arbitrator. The place of

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arbitration shall be in the country of the inventor's residence. The language to be used in the arbitral proceedings shall be English.

No modifications shall be made to this Assignment unless in writing and signed by each of the Assignor(s) and Assignee. If any of the provisions of this Assignment shall be deemed invalid or unenforceable, then the entire Assignment shall be construed as if not containing the particular invalid or unenforceable provision or provisions, and the rights and obligations of Assignee and Assignor(s) shall be construed and enforced accordingly. Assignee's failure to exercise any option made available as a result hereof, shall not be construed as a waiver of such provisions, rights, or options, or affect the validity of this Assignment. Assignor covenants and agrees that it will not take any actions in violation of this Assignment.

Subsequent assignment from any of the assignors to the assignee purporting to convey the subject matter specified herein for a particular country, patent office, or jurisdiction shall not invalidate any provision of this assignment and any such subsequent assignment shall act as a further confirmation of the assignment herein.

Date 2011-12-16..... Signature on behalf of .....
Assignee Gunilla Larsson

ASSIGNMENT

Title: CONTROL CIRCUIT AND METHOD FOR ALLOCATING ORTHOGONAL SEQUENCES

Date 2011-12-12 Signature of Assignor *Christian Bergljung*
BERGLJUNG, Christian

Date 2011-12-12 Witnessed by *Thomas Nilsson*
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SWEDEN

Date 2011-12-12 Witnessed by *Andres Rejal*
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Address: Brombergsgatan 44
21117 Malmö
Sweden

ASSIGNMENT

Title: CONTROL CIRCUIT AND METHOD FOR ALLOCATING ORTHOGONAL SEQUENCES

Date 2011-12-12 Signature of Assignor KAMUF, Matthias

Date 2011-12-12 Witnessed by THOMAS NILSSON Address: CÖDRA FÖRSTADSG. 95D 21420 MALMÖ SWEDEN

Date 2011-12-12 Witnessed by ANDRES REIAL Address: Barometergatan 44 21117 Malmö Sweden