

# PATENT ASSIGNMENT

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CONVEYING PARTY DATA	
Name	Execution Date
Risto Martikkala	12/17/2008
Kauko Heinikoski	12/17/2008
Pekka Adolfsen	12/17/2008
RECEIVING PARTY DATA	
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State/Country:	FINLAND
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PROPERTY NUMBERS Total: 1	
Property Type	Number
Application Number:	12252166
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**PATENT**  
**REEL: 022198 FRAME: 0871**



ASSIGNMENT

WHEREAS, WE,

**RISTO MARTIKKALA**

Kamulankuja 8  
90800 Oulu  
Finland

Citizenship: Finland

**KAUKO HEINIKOSKI**

Korpirouskuntie 25  
90650 Oulu  
Finland

Citizenship: Finland

and

**PEKKA ADOLFSEN**

~~Konekuja 8  
90630 Oulu  
Finland~~

Vesakkatie 6  
90650 Oulu  
Finland

Citizenship: Finland

have made an invention entitled "MULTI-TRANSCIEVER ARCHITECTURE FOR ADVANCED TRANSMIT ANTENNA MONITORING AND CALIBRATION IN MULTIPLE-INPUT MULTIPLE-OUTPUT AND SMART ANTENNA COMMUNICATION SYSTEMS", as set forth and described in non-provisional patent application number 12/252,166 which was filed on October 15, 2008 with the United States Patent and Trademark Office; and

WHEREAS, NOKIA SIEMENS NETWORKS OY, a corporation existing under the laws of Finland and having an office for the transaction of business at Karaportti 3, 02610 Espoo, Finland, is desirous of acquiring our entire right, title and interest in and to said invention, and in and to the said application for Letters Patent therefor, and any Letters Patent which may be obtained therefor;

NOW, THEREFORE, TO ALL WHOM IT MAY CONCERN, BE IT KNOWN, that we, the said RISTO MARTIKKALA, KAUKO HEINIKOSKI and PEKKA ADOLFSEN, and for and in consideration of the sum of One Dollar (\$1.00), lawful money of the United States, to me in hand paid by said NOKIA SIEMENS NETWORKS OY, and other valuable considerations unto us moving from said NOKIA SIEMENS NETWORKS OY, at or before the ensealing and delivery of these presents, the receipt of which is hereby acknowledged, have sold, assigned, transferred and conveyed and by these presents do sell, assign, transfer and convey, unto said NOKIA SIEMENS

NETWORKS OY, its successors and assigns, the entire right, title and interest in and to the said invention entitled "MULTI-TRANSCIVER ARCHITECTURE FOR ADVANCED TRANSMIT ANTENNA MONITORING AND CALIBRATION IN MULTIPLE-INPUT MULTIPLE-OUTPUT AND SMART ANTENNA COMMUNICATION SYSTEMS", as set forth and described in provisional patent application number 12/252,166 which was filed on October 15, 2008 with the United States Patent and Trademark Office; and in and to said application and any application claiming priority therefrom, and any non-provisional application, division, continuation or continuation-in-part thereof, and in and to any Letters Patent of the United States which may be issued on any of said applications, and any reissues thereof, and in and to any and all applications for Letters Patent filed in foreign countries for said invention, including all priority rights under the Paris Convention, and any and all Letters Patent which may be granted in foreign countries therefor, TO HAVE AND TO HOLD THE SAME to the full end of the term or terms for which any and all said Letters Patent may be granted;

AND we, the said RISTO MARTIKKALA, KAUKO HEINIKOSKI and PEKKA ADOLFSSEN do hereby authorize and request the Commissioner of Patents and Trademarks to issue the said Letters Patent of the United States to said NOKIA SIEMENS NETWORKS OY, as the assignee of the entire right, title and interest in and to the same, for the sole use and benefit of said NOKIA SIEMENS NETWORKS OY, its successors and assigns;

AND we, the said RISTO MARTIKKALA, KAUKO HEINIKOSKI and PEKKA ADOLFSSEN for the considerations aforesaid, do hereby covenant and agree to and with said NOKIA SIEMENS NETWORKS OY, its successors and assigns, that we have the full power to make this assignment, and that the rights assigned are not encumbered by any grant, license or right heretofore given, and that we, our executors or administrators, shall and will do all lawful acts and things and make, execute and deliver without further compensation, any and all other instruments in writing, further applications, papers, affidavits, powers of attorney, assignments, and other documents which, in the opinion of counsel for said NOKIA SIEMENS NETWORKS OY, its successors and assigns, may be required or necessary to more effectively secure to and vest in said NOKIA SIEMENS NETWORKS OY, its successors and assigns, the entire right, title and interest in and to said invention, applications, Letters Patent, rights, benefits, privileges and advantages hereby sold, assigned, transferred and conveyed, and that we will sign any applications for reissue which may be desired by the owner of the patent or patents which may be issued for the said invention.

IN WITNESS WHEREOF, we, the said RISTO MARTIKKALA, KAUKO HEINIKOSKI and PEKKA ADOLFSSEN have hereunto set my hands and seal on the date below written.

  
RISTO MARTIKKALA

Witness 1

Name: Tapio Vuopala

Signature: Tap V

Date: 17.12.2008

Witness 2

Name: Jayne Toppila

Signature: Jayne Toppila

Date: 17.12.2008

Kalle Heiniö

KAUKO HEINIKOSKI

Witness 1

Name: Tapio Vuopala

Signature: Tapio V

Date: 17.12.2008

Witness 2

Name: Janne Toppila

Signature: Janne Toppila

Date: 17.12.2008

Pekka Adolfsen  
PEKKA ADOLFSEN

Witness 1

Name: Tapio Vuopala

Signature: Tapi V

Date: 17.12.2008

Witness 2

Name: Janne Toppila

Signature: Janne Toppila

Date: 17.12.2008

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