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PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:		NEW ASSIGNMENT			
IATURE OF CONVEYA	NCE:	ASSIGNMENT	ASSIGNMENT		
CONVEYING PARTY D	ΑΤΑ	·			
		Name	Execution Date		
TIMO ERKKI LUNTTILA	i		05/27/2010		
ESA TAPANI TIIROLA			05/10/2010		
KARI PEKKA PAJUKOSKI 05/10/2010			05/10/2010		
KARI JUHANI HOOLI			05/10/2010		
RECEIVING PARTY DA	TA				
Name:	1	SIEMENS NETWORKS OY			
Street Address:	KARAP	ORTTI 3			
City:	ESPOO)			
State/Country:	FINLAN	ID			
Postal Code:	02610				
PROPERTY NUMBERS	Total: 1				
PROPERTY NUMBERS Property Type		Number			
		Number 16780452			
Property Type Application Number:					
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Property Type Application Number: CORRESPONDENCE D Fax Number: <i>Correspondence will b</i>	DATA (e sent to	16780452			
Property Type Application Number: CORRESPONDENCE D Fax Number: <i>Correspondence will b</i> <i>using a fax number, if p</i> Phone:	PATA (e sent to provided	16780452 (215)568-6499 the e-mail address first; if that is unsuc ; if that is unsuccessful, it will be sent w 2155686400			
Property Type Application Number: CORRESPONDENCE D Fax Number: <i>Correspondence will b</i> <i>using a fax number, if</i> Phone: Email:	PATA e sent to provided	(215)568-6499 the e-mail address first; if that is unsuc ; if that is unsuccessful, it will be sent w 2155686400 awolf@vklaw.com			
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Property Type Application Number: CORRESPONDENCE D Fax Number: Correspondence will b using a fax number, if Phone: Email: Correspondent Name: Address Line 1:	PATA e sent to provided	(215)568-6499 <i>the e-mail address first; if that is unsuc</i> <i>; if that is unsuccessful, it will be sent</i> w 2155686400 awolf@vklaw.com ROBERT D. LEONARD VOLPE KOENIG			
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Property Type Application Number: CORRESPONDENCE D Fax Number: <i>Correspondence will b</i> <i>using a fax number, if p</i> Phone: Email: Correspondent Name: Address Line 1: Address Line 2:	PATA e sent to provided	16780452 (215)568-6499 the e-mail address first; if that is unsuc ; if that is unsuccessful, it will be sent w 2155686400 awolf@vklaw.com ROBERT D. LEONARD VOLPE KOENIG 30 SOUTH 17TH STREET	via US Mail.		
Property Type Application Number: CORRESPONDENCE D Fax Number: Correspondence will b using a fax number, if Phone: Email: Correspondent Name: Address Line 1: Address Line 2: Address Line 4:	PATA e sent to provided	16780452 (215)568-6499 <i>the e-mail address first; if that is unsuc</i> <i>; if that is unsuccessful, it will be sent v</i> 2155686400 awolf@vklaw.com ROBERT D. LEONARD VOLPE KOENIG 30 SOUTH 17TH STREET PHILADELPHIA, PENNSYLVANIA 19103	via US Mail.		
Property Type Application Number: CORRESPONDENCE D Fax Number: Correspondence will b using a fax number, if Phone: Email: Correspondent Name: Address Line 1: Address Line 2: Address Line 4:	PATA e sent to provided	16780452 (215)568-6499 <i>the e-mail address first; if that is unsuc</i> <i>; if that is unsuccessful, it will be sent v</i> 2155686400 awolf@vklaw.com ROBERT D. LEONARD VOLPE KOENIG 30 SOUTH 17TH STREET PHILADELPHIA, PENNSYLVANIA 19103 WFT-P01839US5	via US Mail.		

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Form PTO-1595 (Rev. 08/08) OMB No. 0651-0027 (exp. 9/30/2008)	U.S. DEPARTMENT OF COMMERCE United States Patent & Trademark Office	
RECORDATION FORM COVER SHEET PATENTS ONLY		
Attorney Docket No. 089229.00353 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) 1) Timo Erkki LUNTTILA 2) Esa Tapani TIIROLA 3) Kari Pekka PAJUKOSKI 4) Kari Juhani HOOLI Additional name(s) of conveying party(ies) attached? Yes Yes No 3. Nature of conveyance/Execution Date(s): Execution Date(s): 1) May 27, 2010 2) May 10, 2010 3) May 10, 2010 4) May 10, 2010 Assignment Joint Research Agreement Security Agreement Executive Order 9424, Confirmatory License Other 	 2. Name and address of receiving party(ies): Name: Nokia Siemens Networks Oy Internal Address: Street Address: Karaportti 3 City: Espoo State: Country: Finland Zip: 02610 Additional name(s) & address(es) attached? ☐ Yes X No 	
 4. Application or patent number(s): A. Patent Application No.(s) 12/752,572 Additional numbers attached?] This document is being filed together with a new application. B. Patent No.(s) Yes ⊠ No	
 5. Name and address to whom correspondence concerning document should be mailed; Name: Squire Sanders & Dempsey L.L.P. Internal Address: Street Address: 8000 Towers Crescent Drive, 14th Floor City: Vienna State: Virginia Zip: 22182-6212 Phone Number: (703) 720-7800 Fax Number: (703) 720-7802 Email Address: ipgeneraltyc@ssd.com 	6. Total number of applications and patents involved: <u>One</u> 7. Total fee (37 CFR 1.21(h) & 3.41)	
9. Signature: <u>Peter Flanagan</u> Name of Person Signing Totand	June 22, 2010 Date al number of pages including cover sheet. attachments, documents: 4	

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 1

SQUIRE SANDERS & DEMPSEY L.L.P.

Docket No. 089229.00353

WORLDWIDE INVENTION ASSIGNMENT

For good and valuable consideration paid to the undersigned inventor(s) (hereinafter ASSIGNOR)

[Insert ASSIGNEE's Name(s) Address(cs)] by

_

[Title of Invention]

[*If the assignment is being filed after the filing of the epplication, this section must be completed]

[Signature(s) of Assignor(s)]

Nokia Siemens Networks Oy	
Karaportti 3	
02610 Espoo	
Finland	

(hereinafter ASSIGNEE), the receipt and sufficiency of which is hereby acknowledged, the undersigned ASSIGNOR hereby sells, assigns and transfers to ASSIGNEE the entire and exclusive right, title and interest to the invention entitled

PERIODIC CHANNEL STATE INFORMATION SIGNALING WITH CARRIER AGGREGATION

for which the following applications were filed:

*Filed on:	1 April 2010	Application	12/752,572
	(Day Month Year)		

(Squire, Sanders & Dompsey L.L.P. is hereby authorized to insert the series code, serial number

and/or filing date hereon, when known)

and all Letters Patent of any country in the world to be obtained therefor on said application or any continuation, division, renewal, substitute, reissue or reexamination thereof for the full term or terms for which the same may be granted.

The ASSIGNOR agrees to execute all papers necessary in connection with application and any continuing, divisional, reissue or reexamination applications thereof and also to execute separate assignments in connection with such applications as the ASSIGNEE may deem necessary or expedient.

The ASSIGNOR agrees to execute all papers necessary in connection with any interference, litigation, or other legal proceeding which may be declared concerning this application or any continuation, division, reissue or reexamination thereof or Letters Patent or reissue patent issued thereon and to cooperate with the ASSIGNEE in every way possible in obtaining and producing evidence and proceeding with such interference, litigation, or other legal proceeding.

IN WITNESS WHEREOF, the undersigned inventor(s) has (have) affixed his/her/their signature(s).

Tim ht	Timo Erkki LUNTTILA	May 27 th, 2010
(SIGNATURE)	(TYPE NAME)	V (DATE)
	Esa Tapani TIIROLA	
(SIGNATURE)	(TYPE NAME)	(DATE)
	Kari Pekka PAJUKOSKI	
(SIGNATURE)	(TYPE NAME)	(DATE)
	Kari Juhani HOOLI	
(SIGNATURE)	(TYPE NAME)	(DATE)
(SIGNATURE)	(TYPE NAME)	(DATE)
(SIGNATURE)	(TYPE NAME)	(DATE)

PATENT REEL: 056841 FRAME: 0285 1

SQUIRE SANDERS & DEMPSEY L.L.P.

Docket No. 089229.00353

WORLDWIDE INVENTION ASSIGNMENT

For good and valuable consideration paid to the undersigned inventor(s) (hereinafter ASSIGNOR)

[Insert A\$\$IGNEE's Name(s) Address(es)] bγ

*F

Nokia Siemens Networks Oy	
Karaportti 3	
02610 Espoo	
Finland	

(hereinafter ASSIGNEE), the receipt and sufficiency of which is hereby acknowledged, the undersigned ASSIGNOR hereby sells, assigns and transfers to ASSIGNEE the entire and exclusive right, title and interest to the invention entitled

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IN WITNESS WHEREOF, the undersigned inventor(s) has (have) affixed his/her/their signature(s).

	Timo Erkki LUNTTILA	
(SIGNATURE)	(TYPE NAME)	(DATE)
EU- /	Esa Tapani TIIROLA	10.5.2010
(SIGMATLIRE)	(TYPE NAME)	(DATE)
The Millin	Kari Pekka PAJUKOSKI	<u>10.8,2010</u>
(SIGNATURE)	(TYPE NAME)	(DATE)
NL- March	Kari Juhani HOOLI	10.5.2016
(SIGNATURE)	(TYPE NAME)	(DATE)
(SIGNATURE)	(TYPE NAME)	(DATE)
(SIGNATURE)	(TYPE NAME)	(DATĒ)

[Signature(s) of Assignor(s)]

> PATENT REEL: 056841 FRAME: 0286

RECORDED: 07/13/2021

[Title of [nvention]

[*]f the assignment is being filed after the filing of the application, this section must be completed]