(Rev. 10/02) OMB No. 0651-0027 (exp. 6/30/2005)

03-01-2004



U.S. DEPARTMENT OF COMMERCE U.S. Patent and Trademark Office 0172.42109X00

100604200					
To the Honorable Commissioner of Patents and Trademarks: P	380 lease record use asserted original documents or copy thereof.				
1. Name of conveying party(les): AHVONEN, KATI GATEVA, RALITSA HONKASALO, ZHI-CHUN	Name and address of receiving party(ies)     Name: NOKIA CORPORATION				
HURTTA, TUIJA KIIKILA, MIKA KORHONEN, AKI T. LI, ZHENG MAKINEN, MARKKU T. PIKKUSAARI, ANTTI	Street Address: <b>Keilalahdentie 4, FIN-02150, Espoo</b> , <b>Finland</b>				
TUULOS, MARTTI  Additional name(s) of conveying party(ies) attached? ☐ Yes ☒ No  3. Nature of conveyance:  ☒ Assignment ☐ Merger ☐ Security Agreement ☐ Change of Name	Additional name(s) & address(es) attached? ☐ Yes ☒ No				
☐ Other  Execution Date: <u>Feb. 12, 3,9,4,4,43,3,3,3, 2004</u> .					
Application number(s) or patent number(s):     If this document is being filed together with a new application, the     A. Patent Application No.(s)	execution date of the application is:  B. Patent Registration No.(s)				
10/670,221 filed 9/26/03					
Additional number(s) att	l achad □ Vas ⊠ No				
Name and address of party to whom correspondence concerning document should be mailed:	6. Total number of applications and patents involved 1				
Name: Antonelli, Terry, Stout & Kraus, LLP	7. Total fee (37 CFR 3.41)\$40.00				
Internal Address:	☐ Authorized to be charged to deposit account				
1300 North Seventeenth Street Suite 1800 Arlington, VA 22209	Deposit account number:				
USA	01-2135				
City: State: Zip:	(Attach duplicate copy of this page if paying by deposit account)				
DO NOT USE T	HIS SPACE				
9. Statement and signature.  To the best of my knowledge and belief, the foregoing inform is a true copy of the original document.	rmation is true and correct and any attached copy				
Hung H. Bui# 40,415 Name of Person Signing					
Total number of pages including cover sheet, attachments, and document: 14					

Mail documents to be recorded with required cover sheet information to: Commissioner of Patent & Trademarks, Box Assignments Washington, D.C. 20231

02/26/2004 SSITHIB1 00000040 10670221

40.00 OP

**PATENT** 

**REEL: 015010 FRAME: 0305** 

ATTY. DOCKET NO.:0172.42109X00

WHEREAS the below named inventor (if only one inventor is named below) or inventors (if plural inventors are named below) hereinafter referred to as the ASSIGNOR invented a certain improvement relating to

EN.	HANCED QOS CO	NTROL				
	for which an application for	Letters Patent	t to be filed in th	e United States Patent and	Trademark Office	was executed on even date.
$\boxtimes$	for which U.S. Application September 26, 2003.	Serial No.	10/670,221	for Letters Patent was fi	led in the U.S. Pate	ent and Trademark Office on
	for which an International A	Nokia Corr Keilalahde	poration	as nd		, designating the United States
includerency NOW and to applicate any a accrudite account extension or terms and a AND said in needed AND and a The to identicate include a to identicate and a transfer an	ding any and all divisions and vals, reissues, reexaminations I, WITNESSETH that for governments of ASSIGNEE, its as cation, including any and all and all renewals, reissues, reciping or to accrue with respect signs and legal representative muations thereof, and any and sisions thereof, with all the rightness of any and all such Letter and benefit of ASSIGNEE and GNOR might or could have I of ASSIGNOR hereby agrees to invention and to assign the said in connection with filing stead of the said in connection with the said in connection with said in the said in connection with said in the said in connection with said in the said in	d continuations and extension od and valuable signs and lega advisions and continuations and to the filing or to have, hold all Letters Path the powers, powers, powers, powers and to sasigns and eld and enjoy to execute all pume to said ASI aid application requests the Cos thereof, to ASI the law firm of	s thereof, and any as thereof. It is thereof. It is continuations the continuations the continuations the continuations the continuations the securing of pated, exercise, and etent which may be suffered to the same, if the continuation of the commissioner of SSIGNEE, its as Antonelli, Terry	y and all Letters Patent whith the receipt whereof is here, the entire and exclusive right and any and all Letter ereof, and any and all Letter ereof, and in and to any and ents in the United States and enjoy said invention and appeared therefor, includifurntages in anywise arising any and all renewals, relatives, in as ample and benne enecessary to file applications and legal representativetters Patents thereon.  Patents and Trademarks to signs and legal representative, Stout, Kraus, LLP the power.	ich may be granted by acknowledged, ight, title and inters rs Patent which mat all priority and/or any countries plication, including any and all rene from or appertaini issues, reexaminati seficial a manner to made. tions in the Unitedres and to execute a issue a Letters Pat ives, in accordance wer to insert on thi	ewals, reissues, reexaminations and ing thereto, for and during the term ions and extensions thereof, for the o all intents and purposes as the States and foreign countries for any other papers that may be tent on said application, and on any therewith.

IN TESTIMONY WHEREOF this assignment is executed by ASSIGNOR.

201	full name of sole or first named inventor Kati AHVONEN	INVENTOR'S SIGNATURE	12, 2, 2004
202	FULL NAME OF SECOND JOINT INVENTOR RAIITSA GATEVA	INVENTOR'S SKINATURE	DATE
203	FULL NAME OF THIRD JOINT INVENTOR  Zhi-Chun HONKASALO	INVENTOR'S SIGNATURE	DATE
204	FULL NAME OF FOURTH JOINT INVENTOR Tuija HURTA	INVENTOR'S SIGNATURE	DATE
205	full name of fifth joint inventor Mika KIIKILÄ	INVENTOR'S SIGNATURE	DATE
206	FULL NAME OF SIXTH JOINT INVENTOR  Aki T. KORHONEN	INVENTOR'S SIGNATURE	DATE
207	FULL NAME OF SEVENTH JOINT INVENTOR  Zheng LI	INVENTOR'S SIGNATURE	DATE

WHEREAS the below named inventor (if only one inventor is named below) or inventors (if plural inventors are named below) hereinafter referred to as the ASSIGNOR invented a certain improvement relating to

EN.	HANCED QOS CONTROL			
	for which an application for Letters Pater	nt to be filed in th	e United States Patent and Trademark	Office was executed on even date.
X	for which U.S. Application Serial No. September 26, 2003.	10/670,221	for Letters Patent was filed in the U	J.S. Patent and Trademark Office on
	for which an International Application w Nokia Co AND WHEREAS Keilalahd	rporation	as	, designating the United States

hereinafter referred to as the ASSIGNEE, is desirous of acquiring the entire right, title, and interest in and to said invention and application, including any and all divisions and continuations thereof, and any and all Letters Patent which may be granted thereon, including any and all renewals, reissues, reexaminations and extensions thereof.

NOW, WITNESSETH that for good and valuable consideration, the receipt whereof is hereby acknowledged, ASSIGNOR hereby assigns, sells, and transfers to ASSIGNEE, its assigns and legal representatives, the entire and exclusive right, title and interest in and to said invention and application, including any and all divisions and continuations thereof, and any and all Letters Patent which may be granted therefor, including any and all renewals, reissues, reexaminations and extensions thereof, and in and to any and all priority and/or convention rights or benefits accruing or to accrue with respect to the filing or securing of patents in the United States and/or any countries foreign thereto, SAID ASSIGNEE, its assigns and legal representatives to have, hold, exercise, and enjoy said invention and application, including any and all divisions and continuations thereof, and any and all Letters Patent which may be granted therefor, including any and all renewals, reissues, reexaminations and extensions thereof, with all the rights, powers, privileges and advantages in anywise arising from or appertaining thereto, for and during the term or terms of any and all such Letters Patent when granted, including any and all renewals, reissues, reexaminations and extensions thereof, for the use and benefit of ASSIGNEE and its assigns and legal representatives, in as ample and beneficial a manner to all intents and purposes as the ASSIGNOR might or could have held and enjoyed the same, if the assignment had not been made.

AND ASSIGNOR hereby agrees to execute all papers that may be necessary to file applications in the United States and foreign countries for said invention and to assign the same to said ASSIGNEE, its assigns and legal representatives and to execute any other papers that may be needed in connection with filing said applications and securing Letters Patents thereon.

AND ASSIGNOR authorizes and requests the Commissioner of Patents and Trademarks to issue a Letters Patent on said application, and on any and all divisions and continuations thereof, to ASSIGNEE, its assigns and legal representatives, in accordance herewith.

The undersigned hereby grant(s) the law firm of Antonelli, Terry, Stout, Kraus, LLP the power to insert on this assignment any further identification which may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document.

IN TESTIMONY WHEREOF this assignment is executed by ASSIGNOR.

FIN-02150 Espoo, Finland

201	FULL NAME OF SOLE OR FIRST NAMED INVENTOR Kati AHVONEN	INVENTOR'S SIGNATURE	DATE
202	FULL NAME OF SECOND JOINT INVENTOR  Ralitsa GATEVA	INVENTIONS SIGNATURE	Feb. 03. 2009
203	FULL NAME OF THIRD JOINT INVENTOR  Zhi-Churi HONKASALO	INVENTOR'S SIGNATURE	DATE
204	FULL NAME OF FOURTH JOINT INVENTOR Tuija HURTA	INVENTOR'S SIGNATURE	DATE
205	FULL NAME OF FIFTH JOINT INVENTOR  Mika KIIKILÄ	INVENTOR'S SIGNATURE	DATE
206	FULL NAME OF SIXTH JOINT INVENTOR  Aki T. KORHONEN	inventor's signature	DATE
207	FULL NAME OF SEVENTH JOINT INVENTOR  Zheng LI	INVENTOR'S SIGNATURE	DATE
		1	

ATTY. DOCKET NO.:0172.42109X00

WHEREAS the below named inventor (if only one inventor is named below) or inventors (if plural inventors are named below) hereinafter referred to as the ASSIGNOR invented a certain improvement relating to

EN.	ENHANCED QOS CONTROL					
	for which an application for Letters	s Patent to be filed in the	United States Patent and Trademark Office wa	as executed on even date.		
$\boxtimes$	for which U.S. Application Serial 1 September 26, 2003.	No. 10/670 <b>,221</b>	for Letters Patent was filed in the U.S. Patent	and Trademark Office on		
	AND WHEREAS Keils	tion was filed on a Corporation alahdentie 4 02150 Espoo, Finland	as d	, designating the United States.		
inclusive renew NOW and to applicancy a accruits as continexten or ter use as ASSI AND said inceeded AND and a The to identification.	hereinafter referred to as the ASSIGNEE, is desirous of acquiring the entire right, title, and interest in and to said invention and application, including any and all divisions and continuations thereof, and any and all Letters Patent which may be granted thereon, including any and all renewals, reissues, reexaminations and extensions thereof.  NOW, WITNESSETH that for good and valuable consideration, the receipt whereof is hereby acknowledged, ASSIGNOR hereby assigns, sells, and transfers to ASSIGNEE, its assigns and legal representatives, the entire and exclusive right, title and interest in and to said invention and application, including any and all divisions and continuations thereof, and any and all Letters Patent which may be granted therefor, including any and all renewals, reissues, reexaminations and extensions thereof, and in and to any and all priority and/or convention rights or benefits accruing or to accrue with respect to the filling or securing of patents in the United States and/or any countries foreign thereto, SAID ASSIGNEE, its assigns and legal representatives to have, hold, exercise, and enjoy said invention and application, including any and all divisions and continuations thereof, and any and all Letters Patent which may be granted therefor, including any and all renewals, reissues, reexaminations and extensions thereof, with all the rights, powers, privileges and advantages in anywise arising from or appertaining thereto, for and during the term or terms of any and all such Letters Patent when granted, including any and all renewals, reissues, reexaminations and extensions thereof, for the use and benefit of ASSIGNEE and its assigns and legal representatives, in as ample and beneficial a manner to all intents and purposes as the ASSIGNOR might or could have held and enjoyed the same, if the assignment had not been made.  AND ASSIGNOR hereby agrees to execute all papers that may be necessary to file applications in the United States and foreign countries for said invention and to assig					
201	FULL NAME OF SOLE OR FIRST NAMED Kati AHVONEN	INVENTOR	INVENTOR'S SIGNATURE	DATE		
202	FULL NAME OF SECOND JOINT INVENTOR Ralitsa GATEVA		INVENTOR'S SIGNATURE	DATE		
203	FULL NAME OF THIRD JOINT INVENTOR Zhi-Chun HONKASALO	0	INVENTOR'S SIGNATURE	9/2/2004		
204	FULL NAME OF FOURTH JOINT INVENTOR Tuija HURTA		INVENTOR'S SIGNATURE	DATE		
205	FULL NAME OF FIFTH JOINT INVENTOR Mika KIIKILÄ		INVENTOR'S SIGNATURE	DATE		
	FULL NAME OF SIXTH JOINT INVENTOR		INVENTOR'S SIGNATURE	DATE		

INVENTOR'S SIGNATURE

Aki T. KORHONEN

Zheng LI

FULL NAME OF SEVENTH JOINT INVENTOR

PATENT REEL: 015010 FRAME: 0308

DATE

ATTY. DOCKET NO.:0172.42109X00

WHEREAS the below named inventor (if only one inventor is named below) or inventors (if plural inventors are named below) hereinafter referred to as the ASSIGNOR invented a certain improvement relating to

ENI	IANCED QOS CONTROL			
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	for which an International Application wa Nokia Corp AND WHEREAS Keilalahde FIN-02150	ooration	as nd	, designating the United States
including renewal NOW, and transparent any an accruing its assistant continuate an ASSIC AND assid in needed AND and all The unidentif	unsfers to ASSIGNEE, its assigns and legal ation, including any and all divisions and of all renewals, reissues, reexaminations are gor to accrue with respect to the filing or igns and legal representatives to have, hold unations thereof, and any and all Letters Pations thereof, with all the rights, powers, prosof any and all such Letters Patent when doenefit of ASSIGNEE and its assigns and SNOR might or could have held and enjoy acsisted the account all powers are to said ASI in connection with filing said application	thereof, and any is thereof, as thereof, as thereof, as thereof, as thereof, as continuations the determined properties of pate and a continuation of the pate a continuati	y and all Letters Patent which may be the receipt whereof is hereby acknowly, the entire and exclusive right, title are creof, and any and all Letters Patent whereof, and in and to any and all priority ents in the United States and/or any coepioy said invention and application, in the granted therefor, including any and vantages in anywise arising from or apping any and all renewals, reissues, reextatives, in as ample and beneficial a make assignment had not been made, the necessary to file applications in the igns and legal representatives and to exetters Patents thereon.  Patents and Trademarks to issue a Lettings and legal representatives, in accord, Stout, Kraus, LLP the power to insert	granted thereon, including any and all ledged, ASSIGNOR hereby assigns, sells, and interest in and to said invention and hich may be granted therefor, including and/or convention rights or benefits suntries foreign thereto, SAID ASSIGNEE, netuding any and all divisions and all renewals, reissues, reexaminations and pertaining thereto, for and during the term aminations and extensions thereof, for the anner to all intents and purposes as the United States and foreign countries for xecute any other papers that may be there Patent on said application, and on any ordance herewith.

IN TESTIMONY WHEREOF this assignment is executed by ASSIGNOR.

FULL NAME OF SECOND JOINT INVENTOR Ralitsa GATEVA  FULL NAME OF THIRD JOINT INVENTOR Zhi-Chun HONKASALO  FULL NAME OF FOURTH JOINT INVENTOR TUIja HURTA HURTA HURTA HURTA HURTA INVENTOR'S SIGNATURE  FULL NAME OF FUTTH JOINT INVENTOR Mika KIIKILÄ  FULL NAME OF SIXTH JOINT INVENTOR Aki T. KORHONEN  FULL NAME OF SIXTH JOINT INVENTOR INVENTOR'S SIGNATURE  DATE  JATE  JATE  DATE  JATE  JATE  THEN TO SIXTH JOINT INVENTOR INVENTOR'S SIGNATURE  DATE  JATE  JATE  JATE  Theng I I	201	FULL NAME OF SOLE OR FIRST NAMED INVENTOR KATI AHVONEN	INVENTOR'S SIGNATURE	DATE
Zhi-Chun HONKASALO  FULL NAME OF FOURTH JOINT INVENTOR  Tuija HURTA HURTTA HURTTA HURTTA HURTTA  FULL NAME OF FIFTH JOINT INVENTOR  Mika KHKILÄ  FULL NAME OF SIXTH JOINT INVENTOR  Aki T. KORHONEN  FULL NAME OF SEVENTH JOINT INVENTOR  DATE  DATE  DATE  DATE  PULL NAME OF SEVENTH JOINT INVENTOR  DATE  DATE  DATE  DATE  DATE  DATE	202		INVENTOR'S SKINATURE	DATE
Tuija HURTA HURTTA (H / / / / / 2 2004  FULL NAME OF FIFTH JOINT INVENTOR  Mika KIIKILÄ  FULL NAME OF SIXTH JOINT INVENTOR  Aki T. KORHONEN  FULL NAME OF SEVENTH JOINT INVENTOR  DATE  DATE  DATE  PULL NAME OF SEVENTH JOINT INVENTOR  DATE  DATE	203		INVENTOR'S SIGNATURE	DATE
Mika KIIKILÄ  FULL NAME OF SIXTH JOINT INVENTOR  Aki T. KORHONEN  FULL NAME OF SEVENTH JOINT INVENTOR  INVENTOR'S SIGNATURE  DATE  DATE  DATE	204		INVENTOR'S SIGNATURE	1
Aki T. KORHONEN  FULL NAME OF SEVENTH JOINT INVENTOR  INVENTOR'S SIGNATURE  DATE	205		INVENTOR'S SIGNATURE	DATE
207	206		INVENTOR'S SKINATURE	DATE 4, 2, 20084
Entering DI	207	FULL NAME OF SEVENTH JOINT INVENTOR  Zheng LI	INVENTOR'S SIGNATURE	DATE

208	FULL NAME OF EIGHTH JOINT INVENTOR	INVENTOR'S SIGNATURE	DATE
	Markku T. MÄKINEN		
209	FULL NAME OF NINTH JOINT INVENTOR	INVENTOR'S SIGNATURE	DATE
	Antti PIKKUSAARI		
210	FULL NAME OF NINTH JOINT INVENTOR	INVENTOR'S SIGNATURE	DATE
	Martti TUULOS		

ATTY. DOCKET NO.:0172,42109X00

WHEREAS the below named inventor (if only one inventor is named below) or inventors (if plural inventors are named below) hereinafter referred to as the ASSIGNOR invented a certain improvement relating to

EN	ENHANCED QOS CONTROL							
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	AND WHEREAS	Nokia Corp Keilalahden	oration	as		designating the United States.		
includerence NOW and to applie any a accruits assected extension or term. ASSI AND said in needed AND and a The uidenti	nafter referred to as the ASSIGI ding any and all divisions and vals, reissues, reexaminations at a large property of the prop	continuations and extensions and legal visions and legal visions and commations and the filing or to have, hold, all Letters Pate is, powers, pri Patent when gotted and enjoyed execute all pate to said ASS dapplications equests the Contereof, to AS alaw firm of AS and legal and firm of AS and supplications and sequests the Contereof, to AS alaw firm of AS and legal and extensions and legal and enjoyed applications and legal and enjoyed applications are supplications and legal and l	thereof, and any thereof. consideration, to representatives, ontinuations their dextensions the exercise, and extensions the exercise, and extensions the exercise, and extensions and extensions and extensions and extensions and exercise, and exercise that may be IGNEE, its assignant securing Lording Lording Exercise and securing Lording Exercise SIGNEE, its assignant exercise and securing Lording Exercise SIGNEE, its assignant exe	and-all Letters Patent which the receipt whereof is hereby the entire and exclusive righteof, and any and all Letters reof, and in and to any and a nts in the United States and/ njoy said invention and applie granted therefor, including antages in anywise arising frighteory any and all renewals, reiss atives, in as ample and benefie assignment had not been re necessary to file application gns and legal representatives etters Patents thereon. Patents and Trademarks to is signs and legal representative. Stout, Kraus, LLP the power	h may be granted then a caknowledged, ASS htt, title and interest in Patent which may be all priority and/or con or any countries fore ication, including any and all renewals from or appertaining the sues, reexaminations for a manner to all nade. The sum of the United States and to execute any countries are a Letters Patent coes, in accordance here or to insert on this asset.	reon, including any and all SIGNOR hereby assigns, sells, in and to said invention and a granted therefor, including evention rights or benefits sign thereto, SAID ASSIGNEE, y and all divisions and s, reissues, reexaminations and hereto, for and during the term and extensions thereof, for the intents and purposes as the es and foreign countries for other papers that may be on said application, and on any ewith.		

IN TESTIMONY WHEREOF this assignment is executed by ASSIGNOR.

201	FULL NAME OF SOLE OR FIRST NAMED INVENTOR  Kati AHVONEN	INVENTOR'S SIGNATURE	DATE
202	FULL NAME OF SECOND JOINT INVENTOR Ralitsa GATEVA	INVENTOR'S SIGNATURE	DATE
203	FULL NAME OF THERD JOINT INVENTOR  Zhi-Chun HONKASALO	INVENTOR'S SIGNATURE	DATE
204	FULL NAME OF FOURTH JOINT INVENTOR TUIJA HURTA	INVENTOR'S SIGNATURE	DATE
205	full name of fifth joint inventor Mika KIIKILÄ	INVENTOR'S SIGNATURE	4Feb 2007
206	FULL NAME OF SIXTH JOINT INVENTOR  Aki T. KORHONEN	INVENTOR'S SIGNATURE	DATE
207	FULL NAME OF SEVENTH JOINT INVENTOR  Zheng LI	INVENTOR'S SIGNATURE	DATE

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	AND WHEREAS	oplication was filed on Nokia Corporation Keilalahdentie 4 FIN-02150 Espoo, Finland	as d	, designating the United States.		
includerenew NOW and to applie any a accruit extensive extensive extensive extensive and and a The used and a the used extensive extensi	hereinafter referred to as the ASSIGNEE, is desirous of acquiring the entire right, title, and interest in and to said invention and application, including any and all divisions and continuations thereof, and any and all Letters Patent which may be granted thereon, including any and all renewals, reissues, reexaminations and extensions thereof.  NOW, WITNESSETH that for good and valuable consideration, the receipt whereof is hereby acknowledged, ASSIGNOR hereby assigns, sells, and transfers to ASSIGNEE, its assigns and legal representatives, the entire and exclusive right, title and interest in and to said invention and application, including any and all divisions and continuations thereof, and any and all Letters Patent which may be granted therefor, including any and all renewals, reissues, reexaminations and extensions thereof, and in and to any and all priority and/or convention rights or benefits accruing or to accrue with respect to the filing or securing of patents in the United States and/or any countries foreign thereto, SAID ASSIGNEE, its assigns and legal representatives to have, hold, exercise, and enjoy said invention and application, including any and all divisions and continuations thereof, and any and all Letters Patent which may be granted therefor, including any and all renewals, reissues, reexaminations and extensions thereof, with all the rights, powers, privileges and advantages in anywise arising from or appertaining thereto, for and during the term or terms of any and all such Letters Patent when granted, including any and all renewals, reissues, reexaminations and extensions thereof, for the use and benefit of ASSIGNEE and its assigns and legal representatives, in as ample and beneficial a manner to all intents and purposes as the ASSIGNOR might or could have held and enjoyed the same, if the assignment had not been made.  AND ASSIGNOR hereby agrees to execute all papers that may be necessary to file applications in the United States and foreign countries for said invention and to assign					
Γ—	FULL NAME OF SOLE OR FIRST N	AMED INVENTOR	INVENTOR'S SIGNATURE	DATE		
201	Kati AHVONEN					
202	FULL NAME OF SECOND JOINT INV	ENTOR	INVENTOR'S SIGNATURE	DATE		
	Ralitsa GATEVA					
203	FULL NAME OF THIRD JOINT INVE	NTOR	INVENTOR'S SIGNATURE	DATE		
	Zhi-Chun HONKAS	SALO				
204	FULL NAME OF FOURTH JOINT INV	ENTOR	INVENTOR'S SIGNATURE	DATE		
<u> </u>	Tuija HURTA					
205	FULL NAME OF FIFTH JOINT INVEN	TOR	INVENTOR'S SIGNATURE	DATE		
<u> </u>	Mika KIIKILÄ					
İ	FULL NAME OF SIXTH JOENT INVE	NTOR	INVENTOR'S SIGNATURE	DATE		

Aki T. KORHONEN

FULL NAME OF SEVENTH JOINT INVENTOR

Zheng LI

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	AND WHEREAS K	okia Corporation eilalahdentie 4		as		, designating the United States.
FIN-02150 Espoo, Finland hereinafter referred to as the ASSIGNEE, is desirous of acquiring the entire right, title, and interest in and to said invention and application, including any and all divisions and continuations thereof, and any and all Letters Patent which may be granted thereon, including any and all renewals, reissues, reexaminations and extensions thereof.  NOW, WITNESSETH that for good and valuable consideration, the receipt whereof is hereby acknowledged, ASSIGNOR hereby assigns, sells, and transfers to ASSIGNEE, its assigns and legal representatives, the entire and exclusive right, title and interest in and to said invention and application, including any and all divisions and continuations thereof, and any and all Letters Patent which may be granted therefor, including any and all renewals, reissues, reexaminations and extensions thereof, and in and to any and all priority and/or convention rights or benefits accruing or to accrue with respect to the filing or securing of patents in the United States and/or any countries foreign thereto, SAID ASSIGNEE, its assigns and legal representatives to have, hold, exercise, and enjoy said invention and application, including any and all divisions and continuations thereof, and any and all Letters Patent which may be granted therefor, including any and all renewals, reissues, reexaminations and extensions thereof, with all the rights, powers, privileges and advantages in anywise arising from or appertaining thereto, for and during the term or terms of any and all such Letters Patent when granted, including any and all renewals, reissues, reexaminations and extensions thereof, with all the rights, powers, privileges and advantages in anywise arising from or appertaining thereto, for and during the term or terms of any and all such Letters Patent when granted, including any and all renewals, reissues, reexaminations and extensions thereof, for the use and benefit of ASSIGNEE and its assigns and legal representatives, in as ample and beneficial a manner to a						

IN TESTIMONY WHEREOF this assignment is executed by ASSIGNOR.

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L	Mika KIIKILÄ		
206	FULL NAME OF SIXTH JOINT INVENTOR	INVENTOR'S SIGNATURE	DATE
	Aki T. KORHONEN		
207	FULL NAME OF SEVENTH JOINT INVENTOR	INVENTOR'S SIGNATURE	DATE
	Zheng Ll		

208	FULL NAME OF EIGHTH JOINT INVENTOR  Markku T. MÄKINEN	INVENTOR'S SIGNATURE	<sub>ОЗ Г</sub> еь 2004
209	FULL NAME OF NINTH JOINT INVENTOR	INVENTOR'S SIGNATURE	DATE
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WHEREAS the below named inventor (if only one inventor is named below) or inventors (if plural inventors are named below) hereinafter referred to as the ASSIGNOR invented a certain improvement relating to

ENHANCED QOS CONTROL					
for which an application for Letters Patent to be filed in the United States Patent and Trademark Office was executed on even date.					
$\boxtimes$	for which U.S. Application Serial No. 10/670,221 September 26, 2003.	for Letters Patent was filed in the U.S. Paten	t and Trademark Office on		
	for which an International Application was filed on Nokia Corporation AND WHEREAS Keilalahdentie 4 FIN-02150 Espoo, Fin	as land	, designating the United States.		
hereinafter referred to as the ASSIGNEE, is desirous of acquiring the entire right, title, and interest in and to said invention and application, including any and all divisions and continuations thereof, and any and all Letters Patent which may be granted thereon, including any and all renewals, reissues, reexaminations and extensions thereof.  NOW, WITNESSETH that for good and valuable consideration, the receipt whereof is hereby acknowledged, ASSIGNOR hereby assigns, sells, and transfers to ASSIGNEE, its assigns and legal representatives, the entire and exclusive right, title and interest in and to said invention and application, including any and all divisions and continuations thereof, and any and all priority and/or convention rights or benefits accruing or to accrue with respect to the filling or securing of patents in the United States and/or any countries foreign thereto, SAID ASSIGNEE, its assigns and legal representatives to have, hold, exercise, and enjoy said invention and application, including any and all divisions and continuations thereof, and any and all Letters Patent which may be granted therefor, including any and all renewals, reissues, reexaminations and extensions thereof, with all the rights, powers, privileges and advantages in anywise arising from or appertaining thereto, for and during the term or terms of any and all such Letters Patent which may be granted therefor, including any and all renewals, reissues, reexaminations and extensions thereof, with all the rights, powers, privileges and advantages in anywise arising from or appertaining thereto, for and during the term or terms of any and all such Letters Patent which may be granted therefor, including any and all renewals, reissues, reexaminations and extensions thereof, for the use and benefit of ASSIGNEE and its assigns and legal representatives, in as ample and beneficial a manner to all intents and purposes as the ASSIGNOR might or could have held and enjoyed the same, if the assignment had not been made.  AND ASSIGNOR bereb					
201	FULL NAME OF SOLE OR FIRST NAMED INVENTOR Kati AHVONEN	Inventor's skinature	DATE		
202	FULL NAME OF SECOND JOINT INVENTOR Ralitsa GATEVA	INVENTOR'S SIGNATURE	DATE		
203	FULL NAME OF THURD JOINT INVENTOR  Zhi-Chun HONKASALO	INVENTOR'S SIGNATURE	DATE		
204	FULL NAME OF FOURTH JOINT INVENTOR Tuija HURTA	INVENTOR'S SIGNATURE	DATE		
205	FULL NAME OF FIFTH JOINT INVENTOR  Mika KIIKILÄ	INVENTOR'S SIGNATURE	DATE		
206	FULL NAME OF SIXTH JOINT INVENTOR  Aki T. KORHONEN	INVENTOR'S SIGNATURE	DATE		
207	FULL NAME OF SEVENTH JOINT INVENTOR	INVENTOR'S SIGNATURE	DATE		

Zheng LI

208	FULL NAME OF EIGHTH JOINT INVENTOR	INVENTOR'S SIGNATURE	DATE
	Markku T. MÄKINEN		
209	FULL NAME OF NINTH JOINT INVENTOR	INVENTOR'S SKINATURE	DATE
	Antti PIKKUSAARI	A	2.2.2004
210	FULL NAME OF NENTH JOENT INVENTOR	INVENTOR'S SKINATURE	DATE
	Martti TUULOS		

ATTY. DOCKET NO.:0172.42109X00

WHEREAS the below named inventor (if only one inventor is named below) or inventors (if plural inventors are named below) hereinafter referred to as the ASSIGNOR invented a certain improvement relating to

ENHANCED QOS CONTROL					
	for which an application for	Letters Patent	to be filed in the	United States Patent and Trademark Office wa	as executed on even date.
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	for which an International A	Nokia Corp Keilalahder	oration itie 4	as d	, designating the United States.
FIN-02150 Espoo, Finland hereinafter referred to as the ASSIGNEE, is desirous of acquiring the entire right, title, and interest in and to said invention and application, including any and all divisions and continuations thereof, and any and all Letters Patent which may be granted thereon, including any and all renewals, reissues, reexaminations and extensions thereof.  NOW, WITNESSETH that for good and valuable consideration, the receipt whereof is hereby acknowledged, ASSIGNOR hereby assigns, sells, and transfers to ASSIGNEE, its assigns and legal representatives, the entire and exclusive right, title and interest in and to said invention and application, including any and all divisions and continuations thereof, and any and all Letters Patent which may be granted therefor, including any and all renewals, reissues, reexaminations and extensions thereof, and in and to any and all priority and/or convention rights or benefits accruing or to accrue with respect to the filing or securing of patents in the United States and/or any countries foreign thereto, SAID ASSIGNEE, its assigns and legal representatives to have, hold, exercise, and enjoy said invention and application, including any and all divisions and continuations thereof, and any and all Letters Patent which may be granted therefor, including any and all renewals, reissues, reexaminations and extensions thereof, with all the rights, powers, privileges and advantages in anywise arising from or appertaining thereto, for and during the term or terms of any and all such Letters Patent which may be granted therefor, including any and all renewals, reissues, reexaminations and extensions thereof, for the use and benefit of ASSIGNEE and its assigns and legal representatives, in as ample and beneficial a manner to all intents and purposes as the ASSIGNOR might or could have held and enjoyed the same, if the assignment had not been made.  AND ASSIGNOR hereby agrees to execute all papers that may be necessary to file applications in the United States and foreign					
201	FULL NAME OF SOLE OR FIRST Kati AHVONEN	NAMED INVENTO	PR	INVENTOR'S SIGNATURE	DATE
202	FULL NAME OF SECOND JOINT IN Ralitsa GATEVA	IVENTOR		INVENTOR'S SIGNATURE	DATE
203	FULL NAME OF THIRD JOINT INV. Zhi-Chun HONKA		i	INVENTOR'S SIGNATURE	DATE
204	FULL NAME OF FOURTH JOINT IN Tuija HURTA			INVENTOR'S SIGNATURE	DATE
	EUL VAME OF FIETU KOINT INVI	ENTEND		INVENTOR'S SIGNATURE	DATE

INVENTOR'S SIGNATURE

INVENTOR'S SIGNATURE

Mika KIIKILÄ

Zheng LI

FULL NAME OF SIXTH JOINT INVENTOR

Aki T. KORHONEN
FULL NAME OF SEVENTH JOINT INVENTOR

PATENT REEL: 015010 FRAME: 0317

DATE

DATE

208	FULL NAME OF EIGHTH JOINT INVENTOR	INVENTOR'S SIGNATURE	DATE
<u></u>	Markku T. MÄKINEN		
209	FULL NAME OF NINTH JOINT INVENTOR	INVENTOR'S SIGNATURE	DATE
	Antti PIKKUSAARI		
210	FULL NAME OF NINTH JOINT INVENTOR	INVENTOR'S SIGNATURE	DATE
1 210	Martti TUULOS	uedan	37 Feb. 2004

RECORDED: 02/23/2004