

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
 Stylesheet Version v1.2

EPAS ID: PAT6724878

SUBMISSION TYPE:	CORRECTIVE ASSIGNMENT
NATURE OF CONVEYANCE:	Corrective Assignment to correct the ASSIGNEE NAME OF NOKIA TECHNOLOGIES OY previously recorded on Reel 053449 Frame 0611. Assignor(s) hereby confirms the ASSIGNEE NAME 1 (NOKIA SHANGHAI BELL CO., LTD.) AND ASSIGNEE NAME 2 (NOKIA SOLUTIONS AND NETWORKS OY).
CONVEYING PARTY DATA	
Name	Execution Date
JINGYUAN SUN	01/21/2020
DONGYANG DU	01/18/2020
WEI JIANG	02/08/2020
XIANGNIAN ZENG	01/23/2020
YI ZHANG	01/21/2020
RECEIVING PARTY DATA	
Name:	NOKIA SHANGHAI BELL CO., LTD.
Street Address:	388 NINGQIAO ROAD
City:	SHANGHAI
State/Country:	CHINA
Postal Code:	201206
Name:	NOKIA SOLUTIONS AND NETWORKS OY
Street Address:	KARAPORTTI 3
City:	ESPOO
State/Country:	FINLAND
Postal Code:	02610
PROPERTY NUMBERS Total: 1	
Property Type	Number
Application Number:	16637789
CORRESPONDENCE DATA	
Fax Number:	(704)444-1111
<i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.</i>	
Phone:	7044441000
Email:	usptomail@alston.com
Correspondent Name:	ALSTON & BIRD
Address Line 1:	ONE SOUTH AT THE PLAZA

PATENT

Address Line 2:	101 SOUTH TRYON STREET, SUITE 4000
Address Line 4:	CHARLOTTE, NORTH CAROLINA 28280-4000

ATTORNEY DOCKET NUMBER:	042933/542954
NAME OF SUBMITTER:	GUY R. GOSNELL
SIGNATURE:	/Guy R. Gosnell/
DATE SIGNED:	05/24/2021

Total Attachments: 8

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ASSIGNMENT - WORLDWIDE

ASSIGNOR(S)

Name	City	Country
Jingyuan Sun	Beijing	China
Dongyang Du	Zhejiang	China
Wei Jiang	Zhejiang	China
Xiangnian Zeng	Zhejiang	China
Yi Zhang	Beijing	China

ASSIGNEES

Nokia Shanghai Bell Co., Ltd.

388 Ningqiao Road, Shanghai, 201206, People's Republic of China

NOKIA SOLUTIONS AND NETWORKS OY

Karakaari 7, 02610 Espoo, Finland

For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the ASSIGNOR(S) agree to assign and hereby assign, sell, transfer and set over to the ASSIGNEES and its successors, assigns and legal representatives, the entire right, title and interest, for United States of America and for all other countries in and to (1) the invention(s) identified by the following title or application number and filing date, and (2) any and all related inventions ("RELATED INVENTIONS" as defined below).

Application Title: METHOD AND APPARATUSApplication number: **WO PCT/CN2017/096911**Filing date: **2017-08-10**
(YYYY-MM-DD)

I/we, the ASSIGNOR(S), hereby authorize and request a representative of the ASSIGNEES to insert the application title, application number and filing date when known/received, after the execution of this document. The ASSIGNOR(S) hereby acknowledge and agree that the ASSIGNEES shall have the right to claim priority, directly or through another patent application, to the application identified above in any and all related patent applications subsequently filed in all jurisdictions.

I/we the ASSIGNOR(S) hereby acknowledge and agree that RELATED INVENTIONS include all national, regional and international patent applications filed and to be filed in any and all jurisdictions, that claim priority to the invention(s) identified by the above title or application number and filing date, said patent applications include all divisionals, continuations, re-issues, re-examinations, and continuations-in-part applications, and RELATED INVENTIONS include all rights and privileges in said patent applications and under any and all letters patent that may be granted in the United States of America and in all other countries resulting from said patent applications.

The ASSIGNOR(S) authorize the ASSIGNEES to make applications for such protection in its own name and maintain such protection in any and all countries including the United States of America,

and to invoke and claim for any application for patent or other form of protection for said invention(s), without further authorization from us, any and all benefits, including the rights of priority provided by any and all treaties, conventions, or agreements.

The ASSIGNOR(S) hereby consent that a copy of this assignment shall be deemed a full legal and formal equivalent of any document which may be required in any country in proof of the right of the ASSIGNEES to apply for patent or other form of protection for said invention(s) and to claim the aforesaid benefit of the right of priority.

The ASSIGNOR(S) request that any and all patents for said invention(s) be issued to the ASSIGNEES, its/their successors, assigns and legal representatives, in the United States of America and in all other countries, or to such nominees as the ASSIGNEES may designate.

The ASSIGNOR(S) agree that, when requested, we shall, without charge to the ASSIGNEES sign all papers, and do all acts which may be necessary, desirable or convenient in connection with said applications, patents, or other forms of protection.

In witness whereof, each inventor/assignor please sign and date below:		
Inventor (First Middle LAST)	Signature	Date (YYYY-MM-DD)
<u>Jingyuan Sun</u>	<u>Jingyuan Sun</u>	<u>2020-01-21</u>
<u>Dongyang Du</u>	_____	_____
<u>Wei Jiang</u>	_____	_____
<u>Xiangnian Zeng</u>	_____	_____
<u>Yi Zhang</u>	<u>Yi Zhang</u>	<u>2020-01-21</u>
This assignment should preferably be signed by the inventor(s) before (a) at least two witnesses who also sign here, or (b) a Notary Public if within the U.S.A.:		
Witness Name (First Middle LAST)	Signature	Date (YYYY-MM-DD)
<u>Yong Teng</u>	<u>Yong Teng</u>	<u>2020-01-21</u>
<u>Hong Zhou</u>	<u>Hong Zhou</u>	<u>2020-01-21</u>

and to invoke and claim for any application for patent or other form of protection for said invention(s), without further authorization from us, any and all benefits, including the rights of priority provided by any and all treaties, conventions, or agreements.

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In witness whereof, each inventor/assignor please sign and date below:		
Inventor (First Middle LAST)	Signature	Date (YYYY-MM-DD)
<u>Jingyuan Sun</u>	<u></u>	<u></u>
<u>Dongyang Du</u>	<u>Dongyang Du</u>	<u>2020-01-18</u>
<u>Wei Jiang</u>	<u></u>	<u></u>
<u>Xiangnian Zeng</u>	<u></u>	<u></u>
<u>Yi Zhang</u>	<u></u>	<u></u>

This assignment should preferably be signed by the inventor(s) before (a) at least two witnesses who also sign here, or (b) a Notary Public if within the U.S.A.:

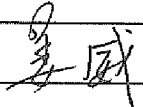
Witness Name (First Middle LAST)	Signature	Date (YYYY-MM-DD)
<u>Gang Du</u>	<u>Gang Du</u>	<u>2020-01-18</u>
<u>Yan Li</u>	<u>Yan Li</u>	<u>2020-01-18</u>

and to invoke and claim for any application for patent or other form of protection for said invention(s), without further authorization from us, any and all benefits, including the rights of priority provided by any and all treaties, conventions, or agreements.

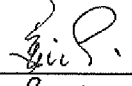
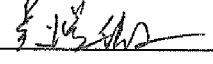
The ASSIGNOR(S) hereby consent that a copy of this assignment shall be deemed a full legal and formal equivalent of any document which may be required in any country in proof of the right of the ASSIGNEES to apply for patent or other form of protection for said invention(s) and to claim the aforesaid benefit of the right of priority.

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In witness whereof, each inventor/assignor please sign and date below:		
Inventor (First Middle LAST)	Signature	Date (YYYY-MM-DD)
<u>Jingyuan Sun</u>	_____	_____
<u>Dongyang Du</u>	_____	_____
<u>Wei Jiang</u>		<u>2020.02.08</u>
<u>Xiangnian Zeng</u>	_____	_____
<u>Yi Zhang</u>	_____	_____

This assignment should preferably be signed by the inventor(s) before (a) at least two witnesses who also sign here, or (b) a Notary Public if within the U.S.A.:

Witness Name (First Middle LAST)	Signature	Date (YYYY-MM-DD)
<u>Liangfen Jiang</u>		<u>2020-02-08</u>
<u>Yuan Wu</u>		<u>2020-02-08</u>

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and to invoke and claim for any application for patent or other form of protection for said invention(s), without further authorization from us, any and all benefits, including the rights of priority provided by any and all treaties, conventions, or agreements.

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In witness whereof, each inventor/assignor please sign and date below:

Inventor (First Middle LAST)	Signature	Date (YYYY-MM-DD)
<u>Jingyuan Sun</u>	_____	_____
<u>Dongyang Du</u>	_____	_____
<u>Wei Jiang</u>	_____	_____
<u>Xiangnian Zeng</u>	<u>Xiangnian Zeng</u>	<u>2020-01-23</u>
<u>Yi Zhang</u>	_____	_____

This assignment should preferably be signed by the inventor(s) before (a) at least two witnesses who also sign here, or (b) a Notary Public if within the U.S.A.:

Witness Name (First Middle LAST)	Signature	Date (YYYY-MM-DD)
<u>Qi Wenqiang</u>	<u>Qi Wenqiang</u>	<u>2020-01-23</u>
<u>li zhang</u>	<u>li zhang</u>	<u>2020-02-04</u>

The ASSIGNEES accept this assignment:

Nokia Shanghai Bell Co., Ltd.Name Edward ZHANGSignature Title EDGM-Strategy & Innovation
of Nokia Shanghai Bell Co., Ltd.Date (YYYY-MM-DD) 2020-3-3**NOKIA SOLUTIONS AND NETWORKS OY**Name Anna HaipolaSignature 
Anna Haipola (May 18, 2020)Title Authorized SignatoryDate (YYYY-MM-DD) May 18, 2020Name Per MöllerSignature 
Per Möller (May 18, 2020)Title Authorized SignatoryDate (YYYY-MM-DD) May 18, 2020