506943484 10/26/2021

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2

EPAS ID: PAT6990321

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
EMANUEL TRAIAN ABRUDAN	08/24/2020
VELI-MATTI KOLMONEN	09/16/2020

RECEIVING PARTY DATA

Name:	NOKIA SOLUTIONS AND NETWORKS OY	
Street Address:	KARAKAARI 7	
City:	ESPOO	
State/Country:	FINLAND	
Postal Code:	02610	

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	17478100

CORRESPONDENCE DATA

Fax Number:

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.

650-868-6292 Phone:

Email: sandy.fong@nokia.com

Correspondent Name: **NOKIA OF AMERICA CORPORATION**

Address Line 1: 600-700 MOUNTAIN AVENUE

Address Line 4: MURRAY HILL. NEW JERSEY 07974-0636

ATTORNEY DOCKET NUMBER:	3197272 2 INVS TO NSN	
NAME OF SUBMITTER:	SANDY FONG	
SIGNATURE:	/Sandy Fong/	
DATE SIGNED:	10/26/2021	

Total Attachments: 4

source=NC319727_Executed Assignment#page1.tif source=NC319727_Executed Assignment#page2.tif source=NC319727_Executed Assignment#page3.tif source=NC319727 Executed Assignment#page4.tif

PATENT REEL: 057920 FRAME: 0993 506943484

ASSIGNMENT - WORLDWIDE

ASSIGNOR(S)

Name	City	Country
Holger Claussen	Dublin	Ireland

(Full legal name, city and country of each inventor)

ASSIGNEE

Nokia Ireland Limited Suite 3, One Earlsfort Centre, Lower Hatch Street, Dublin 2, Ireland

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 ASSIGNEE 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).

Title of Invention: POSITIONING SYSTEM DEPLOYMENT

Application Title: POSITIONING SYSTEM DEPLOYMENT

Application number: FI 20205928 Filing date: 2020-09-25

(YYYY-MM-DD)

I/we, the ASSIGNOR(S), hereby authorize and request a representative of the ASSIGNEE 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 ASSIGNEE 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 ASSIGNEE 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.

1 / 4 v-25March2020

PATENT REEL: 057920 FRAME: 0994 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 ASSIGNEE 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 ASSIGNEE, its/their successors, assigns and legal representatives, in the United States of America and in all other countries, or to such nominees as the ASSIGNEE may designate.

The ASSIGNOR(S) agree that, when requested, we shall, without charge to the ASSIGNEE 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.

The ASSIGNOR(S) and ASSIGNEE agree that this assignment may be executed by either handwritten signatures, including the exchange of scanned representations of handwritten signatures, or e-signatures. By using e-signature to sign this assignment, the ASSIGNOR(S) and ASSIGNEE acknowledge that execution in this manner creates a binding contract between the ASSIGNOR(S) and ASSIGNEE.

Each inventor/assignor please sign and date below:

Inventor (First Middle Last) Signature Date

Holger Claussen Holger Clausen Aug 26, 2020

The ASSIGNEE accepts this assignment:

Name: Mikko Alatossava Signature

Title: Authorized Signatory Date Aug 24, 2020

Name: Ari Aarnio Signature

Title: Authorized Signatory Date Aug 24, 2020

ASSIGNMENT - WORLDWIDE

ASSIGNOR(S)

Name	City	Country
Emanuel Traian Abrudan	Espoo	Finland
Veli-Matti Kolmonen	Espoo	Finland

(Full legal name, city and country of each inventor)

ASSIGNEE

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 ASSIGNEE 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).

Title of Invention: POSITIONING SYSTEM DEPLOYMENT

Application Title: POSITIONING SYSTEM DEPLOYMENT

Application number: FI 20205928 Filing date: 2020-09-25

(YYYY-MM-DD)

I/we, the ASSIGNOR(S), hereby authorize and request a representative of the ASSIGNEE 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 ASSIGNEE 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 ASSIGNEE 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.

3 / 4 v-25March2020

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 ASSIGNEE 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 ASSIGNEE, its/their successors, assigns and legal representatives, in the United States of America and in all other countries, or to such nominees as the ASSIGNEE may designate.

The ASSIGNOR(S) agree that, when requested, we shall, without charge to the ASSIGNEE 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.

The ASSIGNOR(S) and ASSIGNEE agree that this assignment may be executed by either handwritten signatures, including the exchange of scanned representations of handwritten signatures, or e-signatures. By using e-signature to sign this assignment, the ASSIGNOR(S) and ASSIGNEE acknowledge that execution in this manner creates a binding contract between the ASSIGNOR(S) and ASSIGNEE.

Each inventor/assignor please sign and date below:

Signature

Inventor (First Middle Last)

Date

Emanuel Traian Abrudan

... Aug 24, 2020

Veli-Matti Kolmonen

Yeli-Matti Kolmonen

Sep 16, 2020

The ASSIGNEE accepts this assignment:

Name: Huw Edwards

Signature #

Title: Authorized Signatory

Date Aug 24, 2020

Name: Anne Ojanperä

Signature Anna Ojanparä

Title: Authorized Signatory

Date Aug 25, 2020

4/4 v-25March2020

> **PATENT** REEL: 057920 FRAME: 0997