

## PATENT ASSIGNMENT COVER SHEET

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<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
AHMET AKYAMAC	01/07/2019
JEONGRAN LEE	01/07/2019
RAJARSHI BHOWMIK	01/10/2019
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	NOKIA SOLUTIONS AND NETWORKS OY
<b>Street Address:</b>	KARAPORTTI 3
<b>City:</b>	ESPOO
<b>State/Country:</b>	FINLAND
<b>Postal Code:</b>	02610
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	16232279
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	
<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>	
<b>Phone:</b>	732-542-2280
<b>Email:</b>	DLANE@trbkllaw.com
<b>Correspondent Name:</b>	MICHAEL S. BENTLEY
<b>Address Line 1:</b>	TONG, REA, BENTLEY & KIM, LLC
<b>Address Line 2:</b>	12 CHRISTOPHER WAY, SUITE 105
<b>Address Line 4:</b>	EATONTOWN, NEW JERSEY 07724
<b>ATTORNEY DOCKET NUMBER:</b>	307288-US-NP
<b>NAME OF SUBMITTER:</b>	DIANE V. LANE
<b>SIGNATURE:</b>	/Diane V. Lane/
<b>DATE SIGNED:</b>	02/25/2019
<b>Total Attachments: 3</b>	
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source=NC307288-US-NP-Executed-Assignment#page3.tif	

**ASSIGNMENT - WORLDWIDE**

ASSIGNOR(S)

Ahmet Akyamac, of Bridgewater, New Jersey, United States of AmericaRajarshi Bhowmik, of Newark, New Jersey, United States of AmericaJeongran Lee, of Basking Ridge, New Jersey, United States of America

ASSIGNEE

**Nokia Solutions and Networks Oy**  
Karaportti 3, 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: **DETERMINATION OF FIELD TYPES IN TABULAR DATA**Application number: **US16/232279** Filing date: **2018-12-26**  
(YYYY-MM-DD)

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

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.

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

Inventor (First Middle LAST)	Signature	Date (YYYY-MM-DD)
<u>Ahmet Akyamac</u>	_____	_____
<u>Rajarshi Bhowmik</u>	<u><i>Bhowmik</i></u>	<u>2019-01-10</u>
<u>Jeongran Lee</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>Ayan Naba Satya Mandal</u>	<u><i>Ayan Naba Satya Mandal</i></u>	<u>2019/01/10</u>
<u>Vipina Kuttichi Keloth</u>	<u><i>Vipina</i></u>	<u>2019-01-10</u>

The ASSIGNEE accepts this assignment:

Name: Jarmo J. Kemppainen  
Senior IPR Specialist  
 Title \_\_\_\_\_

Signature *Jarmo J. Kemppainen*  
 Date (YYYY-MM-DD) FEB 01 2019

Name: Louis Diep  
Director, Filing & Prosecution Admin  
 Title \_\_\_\_\_

Signature *LD*  
 Date (YYYY-MM-DD) FEB 01 2019

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.

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

Inventor (First Middle LAST)

Signature

Date (YYYY-MM-DD)

Ahmet Akyamac

[Signature]

2019-01-07

Rajarshi Bhowmik

[Signature]

[Signature]

Jeongran Lee

[Signature]

1/0/2019 249-4-07

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

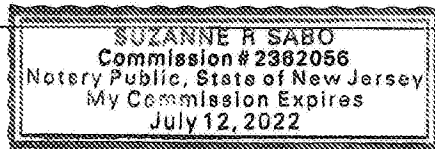
Date (YYYY-MM-DD)

[Signature]

[Signature]

[Signature]

Suzanne R Sabo  
2019-01-07



The ASSIGNEE accepts this assignment:

Name [Signature]

Signature [Signature]

Title [Signature]

Date (YYYY-MM-DD) [Signature]

Name [Signature]

Signature [Signature]

Title [Signature]

Date (YYYY-MM-DD) [Signature]