

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT5196294

|   |                                    |                       |
|---|------------------------------------|-----------------------|
| <b>SUBMISSION TYPE:</b>   | NEW ASSIGNMENT                     |                       |
| <b>NATURE OF CONVEYANCE:</b>  | ASSIGNMENT                         |                       |
| <b>CONVEYING PARTY DATA</b>   |                                    |                       |
| <b>Name</b>   |                                    | <b>Execution Date</b> |
| NOKIA SOLUTIONS AND NETWORKS ITALIA S.P.A. (FORMERLY NOKIA SIEMENS NETWORKS ITALIA S.P.A.)  |                                    | 07/02/2018            |
| <b>RECEIVING PARTY DATA</b>   |                                    |                       |
| <b>Name:</b>  | NOKIA TECHNOLOGIES OY              |                       |
| <b>Street Address:</b>  | KARAPORTTI 3                       |                       |
| <b>City:</b>  | 02610 ESPOO                        |                       |
| <b>State/Country:</b>   | FINLAND                            |                       |
| <b>PROPERTY NUMBERS Total: 1</b>  |                                    |                       |
| <b>Property Type</b>  | <b>Number</b>                      |                       |
| <b>Patent Number:</b>   | 7092453                            |                       |
| <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>Email:</b>   | narpatent@nokia.com                |                       |
| <b>Correspondent Name:</b>  | MARY T. POREMBA                    |                       |
| <b>Address Line 1:</b>  | 600-700 MOUNTAIN AVENUE            |                       |
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| <b>Address Line 4:</b>  | MURRAY HILL, NEW JERSEY 07974-0636 |                       |
| <b>ATTORNEY DOCKET NUMBER:</b>  | TECH-TRANSFERS (MTP)               |                       |
| <b>NAME OF SUBMITTER:</b>   | NIRAJ A. DESAI                     |                       |
| <b>SIGNATURE:</b>   | /Niraj A. Desai/                   |                       |
| <b>DATE SIGNED:</b>   | 10/19/2018                         |                       |
| <b>Total Attachments: 3</b>   |                                    |                       |
| source=NSNItalia(formerlyNokiaSiemensNetworksItalia)-to-NokiaTECH_TechTransfers(USGrants)_FULLYEXECUTED#  |                                    |                       |
| source=NSNItalia(formerlyNokiaSiemensNetworksItalia)-to-NokiaTECH_TechTransfers(USGrants)_FULLYEXECUTED#  |                                    |                       |
| source=NSNItalia(formerlyNokiaSiemensNetworksItalia)-to-NokiaTECH_TechTransfers(USGrants)_FULLYEXECUTED#  |                                    |                       |

## PATENT ASSIGNMENT

This Assignment is effective as of July 2, 2018 (the "Effective Date") by and between

**Nokia Solutions and Networks Italia S.p.A.** (formerly "**Nokia Siemens Networks Italia S.p.A.**"), a corporation organized under the laws of the ITALY, having its registered office at Centro Direzionale Lombardo, Via Roma 108, Milan, 20060, Italy (hereinafter "Assignor") and **Nokia Technologies Oy**, a corporation organized under the laws of FINLAND, having its registered office at Karaportti 3, 02610 Espoo, Finland (hereinafter "Assignee").

**WHEREAS**, Assignor is the owner of certain patents and patent applications, as more particularly described in Attachment 1 (hereinafter "the Assigned Patents"), incorporated herein by reference;

**NOW, THEREFORE**, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged between **Nokia Solutions and Networks Italia S.p.A.** (formerly "**Nokia Siemens Networks Italia S.p.A.**"), and **Nokia Technologies Oy**, having an effective date of **July 2, 2018** (hereinafter "Agreement"), Assignor hereby assigns, transfers and conveys to Assignee, and its successors and assigns, all right, title, and interest in and to (a) each of the Assigned Patents listed in Attachment 1 hereto (including all inventions and discoveries claimed or otherwise disclosed therein); (b) all reissues, re-examinations, continuations, parents, continuations-in-part, divisionals and extensions (collectively "Related Cases") of such Assigned Patents; (c) Assigned Patents (i) to which any or all of the foregoing directly or indirectly claims priority, and (ii) for which any or all of the foregoing directly or indirectly forms a basis for priority; and (d) all Related Cases (whether pending, issued, abandoned or filed in the future) and foreign counterparts to any or all of the foregoing, certificates of invention and equivalent rights worldwide (collectively "Patent Rights");

In addition, Assignor agrees to and hereby does assign, transfer and convey unto Assignee all rights (i) in and to causes of action and enforcement rights for the Patent Rights including all rights to pursue damages, injunctive relief and other remedies for past, present and future infringement of the Patent Rights, (ii) the right to apply (or continue prosecution) in any and all countries of the world for Assigned Patents, design Assigned Patents, utility models, certificates of invention or other governmental grants for the Patent Rights, including under the Paris Convention for the Protection of Industrial Property, the International Patent Cooperation Treaty, or any other convention, treaty, agreement or understanding, and (iii) the rights, if any, to revive prosecution of any abandoned Patent Rights.

Assignor also hereby authorizes the respective patent office or governmental agency in each jurisdiction to issue any and all Assigned Patents or certificates of invention or equivalent which may be granted upon any of the Patent Rights in the name of Assignee, as the assignee to the entire interest therein.

The terms and conditions of this Assignment will inure to the benefit of Assignee, its successors or assigns, and anyone properly designated by them and will be binding upon Assignor, its successors or assigns, and anyone properly designated by them.

IN WITNESS WHEREOF, each of the Parties has caused this Assignment to be executed by its duly authorized representatives as of the Effective Date.

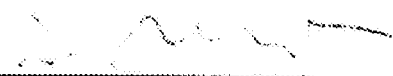
**NOKIA SOLUTIONS AND NETWORKS ITALIA S.P.A.**  
(formerly "Nokia Siemens Networks Italia S.p.A.")

By: 

Name: Emanuele Wenzel

Title: Director / Project

Date: 18-10-2018

Name: 

Title: Stefano Giuseppe IP Counsel

Date: 18-10-2018


**NOKIA TECHNOLOGIES OY**

By: 

Name: Gordon Huang

Title: Director / Project

Date: Oct 18, 2018

Name: 

Title: IPR Manager

Date: Oct 18, 2018

**Attachment 1**

| <b>Family Code</b> | <b>Case Reference</b> | <b>Country</b> | <b>Filing Number</b> | <b>Grant Number</b> |
|--------------------|-----------------------|----------------|----------------------|---------------------|
| 200183127          | 2001P83127 US         | US             | 10/025,454           | 7092453             |