

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT4220255

|                                   |                       |                       |
|-----------------------------------|-----------------------|-----------------------|
| <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 CORPORATION                 |                       | 01/16/2015            |
| <b>RECEIVING PARTY DATA</b>       |                       |                       |
| <b>Name:</b>                      | NOKIA TECHNOLOGIES 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: 24</b> |                       |                       |
| <b>Property Type</b>              | <b>Number</b>         |                       |
| Application Number:               | 14423851              |                       |
| Application Number:               | 14412598              |                       |
| Application Number:               | 13628144              |                       |
| Application Number:               | 14414754              |                       |
| Application Number:               | 13531135              |                       |
| Application Number:               | 14420790              |                       |
| Application Number:               | 14428910              |                       |
| Application Number:               | 14419061              |                       |
| Application Number:               | 14413633              |                       |
| Application Number:               | 13538363              |                       |
| Application Number:               | 14414429              |                       |
| Application Number:               | 14412865              |                       |
| Application Number:               | 14421244              |                       |
| Application Number:               | 13651991              |                       |
| Application Number:               | 14427913              |                       |
| Application Number:               | 13630898              |                       |
| Application Number:               | 14760501              |                       |
| Application Number:               | 14764653              |                       |
| Application Number:               | 14319266              |                       |
| Application Number:               | 14304839              |                       |

PATENT

| Property Type       | Number   |
|---------------------|----------|
| Application Number: | 14503916 |
| Application Number: | 14316779 |
| Application Number: | 14506970 |
| Application Number: | 14065095 |

**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.*

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**Correspondent Name:** NOKIA USA INC. ATTN: IP DOCKETING

**Address Line 1:** 200 SOUTH MATHILDA AVE

**Address Line 4:** SUNNYVALE, CALIFORNIA 94086

|                           |             |
|---------------------------|-------------|
| <b>NAME OF SUBMITTER:</b> | THAO PHAM   |
| <b>SIGNATURE:</b>         | /Thao Pham/ |
| <b>DATE SIGNED:</b>       | 01/11/2017  |

**Total Attachments: 2**  
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PATENT ASSIGNMENT

THIS Assignment is effective as of 31 December 2014 between

Assignor **NOKIA CORPORATION** of Karaportti 3, FI - 02610 Espoo, Finland, a corporation organized under the laws of Finland (hereinafter "Nokia Corporation") and Assignee **NOKIA TECHNOLOGIES OY** of Karaportti 3, FI - 02610 Espoo, Finland, a corporation organized under the laws of Finland (hereinafter "Nokia Technologies")

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

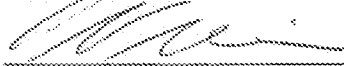
**NOW, THEREFORE**, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged and in accordance with that certain Business Purchase Agreement between Nokia Corporation and Nokia Technologies having an effective date of 31 December 2014 (hereinafter "Agreement"):


Nokia Corporation sells, assigns, transfers and conveys to Nokia Technologies, and its successors and assigns, all right, title, and interest in and to each of the Patents and patent applications listed in Attachment 1 hereto and all continuations, divisions, and reissues arising from or related to the Patents.

This sale, assignment, transfer, and conveyance to Nokia Technologies, and its successors and assigns, is made subject to certain retained rights in favor of Nokia Corporation for the Patents and patent applications listed in Attachment 1, as are set forth in the Agreement.

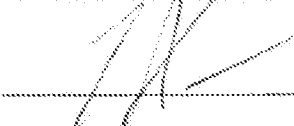
**IN WITNESS WHEREOF**, the parties have caused their respective corporate names to be affixed hereto and this instrument to be signed by their duly authorized officers as of the day and year written below.

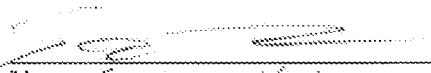
**NOKIA CORPORATION**

By:   
Name: Esa Niinimäki  
Title: Authorized signatory  
Date: 16 January 2015

  
Name: Anne Oksanen  
Title: Legal Counsel  
Date: 16 January 2015

**NOKIA TECHNOLOGIES OY**

By:   
Name: Jyri Laasi  
Title: Vice President, Legal & IP  
Date: 16 January 2015

  
Name: Sami Uusela  
Title: Head of Finance and operations  
Date: 16 January 2015

|              |                             |             |           |             |         |
|--------------|-----------------------------|-------------|-----------|-------------|---------|
| 79099-US-PCT | United States<br>Of America | 30 Aug 2012 | 14/423851 |             |         |
| 79113-US-PCT | United States<br>Of America | 26 Jul 2013 | 14/412598 |             |         |
| 79124-US-NP  | United States<br>Of America | 27 Sep 2012 | 13/628144 | 12 Jul 2016 | 9389594 |
| 79180-US-PCT | United States<br>Of America | 07 Aug 2012 | 14/414754 |             |         |
| 79203-US-NP  | United States<br>Of America | 22 Jun 2012 | 13/531135 |             |         |
|              |                             |             |           |             |         |
| 79276-US-PCT | United States<br>Of America | 14 Aug 2012 | 14/420790 |             |         |
| 79283-US-PCT | United States<br>Of America | 18 Sep 2012 | 14/428910 |             |         |
| 79327-US-PCT | United States<br>Of America | 11 Sep 2013 | 14/419061 |             |         |
| 79397-US-PCT | United States<br>Of America | 08 Aug 2012 | 14/413633 |             |         |
| 79410-US-NP  | United States<br>Of America | 29 Jun 2012 | 13/538363 |             |         |
| 79511-US-PCT | United States<br>Of America | 15 Aug 2012 | 14/414429 |             |         |
| 79565-US-PCT | United States<br>Of America | 11 Jul 2012 | 14/412865 |             |         |
| 79619-US-PCT | United States<br>Of America | 16 Oct 2012 | 14/421244 |             |         |
| 79690-US-NP  | United States<br>Of America | 15 Oct 2012 | 13/651991 |             |         |
| 79854-US-PCT | United States<br>Of America | 14 Sep 2012 | 14/427913 |             |         |
| 79941-US-NP  | United States<br>Of America | 28 Sep 2012 | 13/630898 |             |         |
| 80444-US-PCT | United States<br>Of America | 15 Jan 2013 | 14/760501 |             |         |
| 80670-US-PCT | United States<br>Of America | 31 Jan 2013 | 14/764653 |             |         |
| 81923-US-NP  | United States<br>Of America | 30 Jun 2014 | 14/319266 |             |         |
| 82333-US-NP  | United States<br>Of America | 13 Jun 2014 | 14/304839 | 01 Mar 2016 | 9277346 |
| 82438-US-NP  | United States<br>Of America | 01 Oct 2014 | 14/503916 |             |         |
| 82456-US-NP  | United States<br>Of America | 26 Jun 2014 | 14/316779 |             |         |
| 82482-US-NP  | United States<br>Of America | 06 Oct 2014 | 14/506970 |             |         |
| 82560-US-NP  | United States<br>Of America | 28 Oct 2013 | 14/065095 |             |         |