505641767 08/27/2019

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5688573

| SUBMISSION TYPE: | NEW ASSIGNMENT |
|-----------------------|----------------|
| NATURE OF CONVEYANCE: | ASSIGNMENT |

CONVEYING PARTY DATA

| Name | Execution Date |
|-----------------------|----------------|
| BLACKBERRY UK LIMITED | 06/26/2017 |

RECEIVING PARTY DATA

| Name: | BLACKBERRY LIMITED | |
|-----------------|---------------------------|--|
| Street Address: | 2200 UNIVERSITY AVE. EAST | |
| City: | WATERLOO | |
| State/Country: | ONTARIO | |
| Postal Code: | N2K 0A7 | |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 16391873 |

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.

Phone: 613-232-7302

Email: joe.ulvr@moffatco.com

Correspondent Name: MOFFAT-RIM

Address Line 1: 11 HOLLAND AVE., SUITE 715
Address Line 4: 0TTAWA, CANADA K1Y 4S1

| ATTORNEY DOCKET NUMBER: | 2173-2712 |
|-------------------------|------------------|
| NAME OF SUBMITTER: | JOSEPH L. ULVR |
| SIGNATURE: | /Joseph L. Ulvr/ |
| DATE SIGNED: | 08/27/2019 |

Total Attachments: 5

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PATENT 505641767 REEL: 050181 FRAME: 0583

CONFIRMATION AND ASSIGNMENT

WHEREAS BLACKBERRY UK LIMITED, a corporation organized under the laws of England and Wales, having a place of business at Ground Floor, The Pearce Building, West Street, Maidenhead, Berkshire, SL6 1RL, United Kingdom, (the "ASSIGNOR") is the owner of certain rights, title and interest in and to certain inventions and designs (the "Assignor Inventions"); and

WHEREAS BLACKBERRY LIMITED, a corporation organized under the laws of the Province of Ontario, Canada, having a place of business at 2200 University Avenue East, Waterloo, Ontario, N2K 0A7, Canada, (the "ASSIGNEE") is the owner of certain rights, title and interest in and to certain inventions and designs (the "Assignee Inventions"); and

WHEREAS ASSIGNOR and ASSIGNEE agree that ASSIGNEE is the owner of developments, modifications, improvements, adaptations of and derivative works, related to the Assignor Inventions or Assignee Inventions, whether created by ASSIGNEE or ASSIGNOR or on their behalf (the "Developments"), and that ASSIGNOR has received full market consideration therefor; and

WHEREAS ASSIGNOR wishes to confirm that ASSIGNEE is the owner of all rights, title and interest of the ASSIGNOR in and to certain of the Developments ("Creations"), described in documents, descriptions and/or drawings ("Creation Documents"), and/or described in applications for patents, design registrations, utility model registrations and other forms of protection ("Applications"), inclusive of any and all priority rights derived therefrom, and all ancillary rights relating thereto, as listed in Schedule "A" attached hereto.

NOW THEREFORE, for valuable consideration, the receipt and sufficiency of which are hereby acknowledged by ASSIGNOR and ASSIGNEE, ASSIGNOR and ASSIGNEE, intending to be legally bound, agree as follows:

ASSIGNOR hereby confirms that it has transferred, conveyed and assigned, and by way of further assurance, to the extent that the transfer, conveyance or assignment has not already been fully effected, ASSIGNOR hereby transfers, conveys and assigns, any and all of its rights, title and interest in and to: the Creations; the Creation Documents; Applications, inclusive of any and all priority rights, including the right to claim priority, derived from the Applications; any further applications for patents, designs, utility models or other forms of protection, rights or titles for the whole or any part or parts of or improvements to the Creations in any country or countries ("Further Applications") together with the right to file divisional applications, substitute applications and continuation applications of any one or more of the Applications and Further Applications ("Divisionals"); the right to obtain patents, design registrations, utility model registrations and all other forms of protection, rights and titles relating to the Creations and Creation Documents; and the right to obtain any extensions / supplementary protection certificates ("Extensions"); together with the right to bring proceedings to recover damages and/or to obtain other remedies for acts committed in respect of one or more of the aforesaid Creations, Creation Documents, Applications,

- 1/4 - V7.3

PATENT REEL: 050181 FRAME: 0584 Further Applications, Divisionals and Extensions, whether such acts are committed before or after the date of this assignment; with the intent that the Creations, Creation Documents, Applications, Further Applications, Divisionals and Extensions are owned and enjoyed by ASSIGNEE absolutely to the full end of the term or terms for same.

ASSIGNOR hereby agrees, upon request, to provide assistance and to execute any and all further documents which may be necessary or desirable to enable ASSIGNEE or its successors and assigns (as applicable), to file, prosecute, bring proceedings and take other actions with respect to any and all of the Creations, Creation Documents, Applications, Further Applications, Divisionals and Extensions, and any and all patents and registrations granted thereon and other forms of protection, rights and titles relating thereto, and ASSIGNOR further agrees to execute, upon request, any and all further documents which may be necessary or desirable to vest or perfect the title of ASSIGNEE therein.

ASSIGNOR does hereby authorize ASSIGNEE or its patent agents or attorneys to insert in Schedule "A" the jurisdictions, application numbers, filing dates and any other indicia identifying the Applications when such information is available for the purpose of recording this assignment.

ASSIGNOR hereby authorizes and requests The Commissioner of Patents, or any equivalent authority, to issue to ASSIGNEE each and every patent, registration and other forms of protection, right and title granted upon the Applications, Further Applications, Divisionals and Extensions.

THIS ASSIGNMENT shall inure to the benefit of ASSIGNEE and its successors and assigns and shall be binding upon ASSIGNOR and its successors and permitted assigns.

IF ANY COVENANT OR PROVISION, or portion thereof, of this document is determined to be void or unenforceable, such void or unenforceable covenant or provision, or portion thereof, is hereby conceded to be severable from the balance of this document, and any such determination shall not, in any event, affect or impair the validity of the balance of the covenant or provision, nor shall it affect or impair the validity of any other covenant or provision herein contained.

DELIVERY of this Confirmation and Assignment by copy, however transmitted, constitutes valid and effective delivery. This Confirmation and Assignment may be executed in one or more counterparts, each of which when so executed and delivered shall be an original, and such counterparts shall together constitute one and the same instrument.

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IN WITNESS WHEREOF, this Confirmation And Assignment has been executed below by the undersigned:

| | BlackBerry UK Limited |
|--------------------------------------|---|
| Date: June 24 , 2017 | |
| | By: |
| | Name: Steve Rai |
| | Title: Director |
| | |
| | |
| | |
| STATEM | IENT BY WITNESS |
| I, Krista Luft | whose full Post Office Address is |
| 2200 University Ave. E, Waterloo, ON | , N2K 0A7, Canada |
| (Add | lress of Witness) |
| | present and did see the above named person, on named in the assignment, duly sign and execute |
| Date: June 26, 2017 | - Hilalett |
| | (Signature of Witness) |

IN WITNESS WHEREOF, this Confirmation And Assignment has been executed below by the undersigned:

| DOOR WAXNESS OF KIRRO | BlackBerry | Limited |
|-----------------------|------------|---------|
|-----------------------|------------|---------|

Date: June 26, 2017

Ву:

Name: Steve Rai

Title: Authorized Signing Officer

STATEMENT BY WITNESS

| I, Krista Luft | whose full Post Office Address is |
|---------------------------------------|--|
| 2200 University Ave. E, Waterloo, ON, | N2K 0A7, Canada |
| (Addr | ress of Witness) |
| | present and did see the above named person, named in the assignment, duly sign and execute |
| Date: June 240, 2017 | Walft |
| | (Signature of Witness) |

Page 1 of 1

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| nd Assignment | BB File # 50314-US-PAT |
|---------------|---|
| onfirmation a | File Date Mar 02 2017 |
| | Country Code Appln. No. US 15/448100 |

RECORDED: 08/27/2019

PATENT REEL: 050181 FRAME: 0588