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| PATENT ASSIGNMENT COVER SHEET |
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EPAS ID: PAT5598525

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

CONVEYING PARTY DATA

| Name | Execution Date |
|---|----------------|
| NOKIA OF AMERICA CORPORATION (FORMERLY ALCATEL-LUCENT USA INC.) | 07/21/2017 |

RECEIVING PARTY DATA

| | |
|--------------------------|----------------------------|
| Name: | ALCATEL LUCENT |
| Street Address: | SITE DE NOKIA PARIS-SACLAY |
| Internal Address: | ROUTE DE VILLEJUST |
| City: | 91620 NOZAY |
| State/Country: | FRANCE |

PROPERTY NUMBERS Total: 51

| Property Type | Number |
|----------------|---------|
| Patent Number: | 6678283 |
| Patent Number: | 6760435 |
| Patent Number: | 6771671 |
| Patent Number: | 6859306 |
| Patent Number: | 6915059 |
| Patent Number: | 6954487 |
| Patent Number: | 6956870 |
| Patent Number: | 7006448 |
| Patent Number: | 7068409 |
| Patent Number: | 7095713 |
| Patent Number: | 7106702 |
| Patent Number: | 7106727 |
| Patent Number: | 7120706 |
| Patent Number: | 7136666 |
| Patent Number: | 7170887 |
| Patent Number: | 7171117 |
| Patent Number: | 7197040 |
| Patent Number: | 7215852 |
| Patent Number: | 7218947 |
| Patent Number: | 7224687 |

PATENT

| Property Type | Number |
|----------------|---------|
| Patent Number: | 7295554 |
| Patent Number: | 7325071 |
| Patent Number: | 7352699 |
| Patent Number: | 7398446 |
| Patent Number: | 7436900 |
| Patent Number: | 7440170 |
| Patent Number: | 7440459 |
| Patent Number: | 7453807 |
| Patent Number: | 7466698 |
| Patent Number: | 7486684 |
| Patent Number: | 7486895 |
| Patent Number: | 7499499 |
| Patent Number: | 7508577 |
| Patent Number: | 7519056 |
| Patent Number: | 7539133 |
| Patent Number: | 7548668 |
| Patent Number: | 7558229 |
| Patent Number: | 7562345 |
| Patent Number: | 7650081 |
| Patent Number: | 7660606 |
| Patent Number: | 7668899 |
| Patent Number: | 7716366 |
| Patent Number: | 7725104 |
| Patent Number: | 7764423 |
| Patent Number: | 7765179 |
| Patent Number: | 7782901 |
| Patent Number: | 7822298 |
| Patent Number: | 7822915 |
| Patent Number: | 9030960 |
| Patent Number: | 9204403 |
| Patent Number: | 9847942 |

CORRESPONDENCE DATA

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PATENT

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ATTORNEY DOCKET NUMBER: WSOU CASES-(MTP)

NAME OF SUBMITTER: NIRAJ A. DESAI

SIGNATURE: /Niraj A. Desai/

DATE SIGNED: 07/01/2019

Total Attachments: 6

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ASSIGNMENT

This Assignment shall be effective as of **21 July 2017** (the "Effective Date").

Nokia of America Corporation (formerly Alcatel-Lucent USA Inc.), a corporation established and existing under the laws of United States of America and having its principal place of business at 500-700 Mountain Avenue, Murray Hill, New Jersey 07974-0636, United States of America ("Assignor") does hereby assign, transfer and convey, subject to any existing rights, licenses and/or obligations of or to third parties, unto **Alcatel Lucent**, a corporation established and existing under the laws of France and having its principal place of business at Site de Nokia Paris-Saclay, Route de Villejust, 91620 Nozay, France ("Assignee"), all of Assignor's right, title and interest, for all countries, jurisdictions and political entities of the world, in and to any and all of the following (collectively, "Rights");

- (a) The invention or inventions (collectively, "Inventions") identified in **SCHEDULE A** and all the Intellectual Property rights and privileges under any and all forms of protection, including those enumerated below;
- (b) The patent application(s) filed with respect to said Inventions, as identified in **SCHEDULE A**, and patent applications or other applications that may be filed for protection including, without limitation, applications for certificates of invention, utility models, industrial design protection, design patent protection, and provisional patent applications wherever filed, with respect to the Inventions, (collectively, "Applications") including all rights to file and prosecute such Applications directly in the name of Assignee;
- (c) All patents including, without limitation, certificates of invention, utility models, industrial design protection, design patent protection, that may be granted, registered, or issued with respect to the Inventions or the Applications (collectively, "Patents") including, but not limited to, any already granted patents identified in **SCHEDULE A**;
- (d) All reissues, requests for continuing examinations, re-examinations, extensions, continuations, continuing prosecution applications, divisions, or registrations of, any item in any of the any of the foregoing categories (b) or (c);
- (e) The right to claim priority rights deriving or arising from any of the foregoing categories (b), (c) or (d) and for Assignee to otherwise avail itself of the provisions of the international conventions governing the protection of inventions;
- (f) All causes of action and enforcement rights related to any of the foregoing categories (a), (b), (c) or (d) (including, without limitation, the right to sue and to pursue damages, injunctive relief, or other remedies for past, present, or future infringement, misappropriation, or violation of rights related thereto);
- (g) All rights to license and to collect royalties and other payments under or on account of any of the foregoing categories (a), (b), (c) or (d); and
- (h) Any and all other rights and interests arising out of, in connection with, or in relation to any of the foregoing categories (a), (b), (c) or (d),

with respect to which, and to the extent to which, Assignor had or has acquired the right to so assign, convey, transfer and deliver.

With respect to which, and to the extent to which, Assignor had or has acquired the right to so assign, convey, transfer and deliver.


Assignor requests the respective patent office or governmental agency in each jurisdiction to grant or issue any and all letters patents, certificates of invention, utility models or other governmental or inter-governmental grants or issuances that may be granted upon any of the Rights in the name of the Assignee, as the Assignee to the Assignor's entire interest therein.

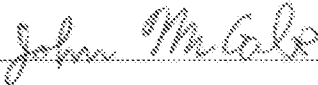
The terms and conditions of this Assignment will inure to the benefit of Assignee, its successors or assigns, and anyone properly designated by them and will be binding upon Assignor, its successors or assigns, and anyone properly designated by them.

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

ASSIGNOR:

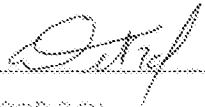
Nokia of America Corporation

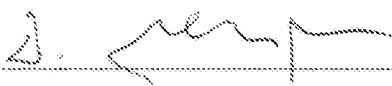
By: 
Name: Niraj Desai
Title: SR. IP Corporate Counsel
Date: 23 May, 2019

By: 
Name: John F. McCabe
Title: SR. IP Corporate Counsel
Date: 23 May 2019

ASSIGNEE:

Alcatel Lucent

By: 
Name: E. WESSEL
Title: DIRECTOR PATENTS
Date: 27 MAY 2019

By: 
Name: D. MEDEIROS
Title: SENIOR IP CORPORATE COUNSEL
Date: 27 MAY 2019

SCHEDULE A

| <u>Case Reference</u> | <u>Country</u> | <u>Application Number</u> | <u>Grant Number</u> |
|--|----------------|---------------------------|---------------------|
| 878670-DE-EPA (formerly Kang 11-6 (H)-DE-EPA) | DE | 05255912.7 | EP1643700 |
| 137784-DE-EPD | DE | 07110961.8 | EP1835673 |
| 892613-DE-EPT (formerly Valluru 1 (S)-DE-EPT) | DE | 08844051.6 | EP2208386 |
| 881022-US-NP (formerly LivingstonEnterprise 6-US-NP) | US | 09/269130 | US6678283 |
| 861967-US-NP (formerly Chuang 3-3 (C)-US-NP) | US | 09/500191 | US6760435 |
| 868407-US-NP (formerly Fields 2-29-24-18 (JA)-US-NP) | US | 09/444091 | US6771671 |
| 868608-US-NP (formerly Fishman 15-7-15-3-17 (DA)-US-NP) | US | 10/357646 | US6859306 |
| 864194-US-NP (formerly Daoud 305-107 (BH)-US-NP) | US | 10/448511 | US6815059 |
| 870385-US-NP (formerly Garyantes 2-1-5-5-1 (MF)-US-NP) | US | 09/729900 | US6954487 |
| 855697-US-NP (formerly Bhatoolaul 10-23-2-9 (DI)-US-NP) | US | 09/713129 | US6956870 |
| 875588-US-NP (formerly INS 11 (-)-US-NP) | US | 09/675310 | US7006448 |
| 850897-US-NP (formerly Aksyuk 34-5 (VA)-US-NP) | US | 10/813951 | US7068409 |
| 137784-US-NP | US | 10/831711 | US7095713 |
| 875149-US-NP (formerly Hua 15-2 (S)-US-NP) | | 10/158815 | US7106702 |
| 880579-US-NP (formerly Li 2-7 (Z)-US-NP) | US | 10/027761 | US7106727 |
| 894555-US-NP (formerly Zievers 2 (PJ)-US-NP) | US | 10/699530 | US7120706 |

| <u>Case Reference</u> | <u>Country</u> | <u>Application Number</u> | <u>Grant Number</u> |
|---|----------------|---------------------------|---------------------|
| 860738-US-NP (formerly Charriere 12-4-13 (P)-US-NP) | US | 10/290619 | US7136666 |
| 888606-US-CNT (formerly Rosenberg 16 (JD)-US-CNT) | US | 09/977643 | US7170887 |
| 872407-US-NP (formerly Gripp 2-35 (J)-US-NP) | US | 09/648822 | US7171117 |
| 857804-US-NP (formerly Bressoud 2-44-1 (TC)-US-NP) | US | 10/136761 | US7197040 |
| 865821-US-CIP (formerly Doerr 88-22 (CR)-US-CIP) | US | 10/704389 | US7215852 |
| 859742-US-NP (formerly Cao 37-15-17 (Q)-US-NP) | US | 10/351042 | US7218947 |
| 879335-US-NP (Kutac 1-5 (GS)-US-NP) | US | 10/087565 | US7224687 |
| 879034-US-NP (formerly Krishnamoorthy 27-21-15 (AV)-US-NP) | US | 09/521693 | US7295554 |
| 883350-US-NP (formerly Riverstone 64 (J)-US-NP) | US | 10/340113 | US7325071 |
| 137783-US-NP | US | 10/740720 | US7352699 |
| 870362-US-NP (formerly Garrett 10-21 (D)-US-NP) | US | 10/447113 | US7398446 |
| 874708-US-NP (formerly Hoffmann 3 (S)-US-NP) | US | 09/820146 | US7436900 |
| 877083-US-NP (formerly Kao 8-53 (Y)-US-NP) | US | 11/426035 | US7440170 |
| 860102-US-NP (formerly Casati 10 (A)-US-NP) | US | 10/768053 | US7440459 |
| 888361-US-NP (formerly Riverstone 74 (J)-US-NP) | US | 10/453974 | US7453807 |
| 888342-US-NP (formerly Riverstone 57 (J)-US-NP) | US | 10/454283 | US7466698 |

| <u>Case Reference</u> | <u>Country</u> | <u>Application Number</u> | <u>Grant Number</u> |
|--|----------------|---------------------------|---------------------|
| 861896-US-NP (formerly Chu 6-4-6-10 (TP)-US-NP) | US | 10/674885 | US7486684 |
| 893605-US-NP (formerly Werner 12-13 (D)-US-NP) | US | 11/301386 | US7486895 |
| 871589-US-NP (formerly Gollamudi 3 (S)-US-NP) | US | 09/873706 | US7499499 |
| 855102-US-NP (formerly Benz 3-6-13 (A)-US-NP) | US | 11/093010 | US7508577 |
| 888343-US-NP (formerly Riverstone 58 (I)-US-NP) | US | 10/455510 | US7519056 |
| 872726-US-NP (formerly Haalen 9-16 (Rv)-US-NP) | US | 11/387321 | US7539133 |
| 861150-US-NP (formerly Chen 54-26-14-8 (Y)-US-NP) | US | 11/944183 | US7548668 |
| 853004-US-NP (formerly Bachi 8-28-24-12 (RW)-US-NP) | US | 11/212131 | US7558229 |
| 856762-US-NP (formerly Bogdan 2-1-1-1 (BJ)-US-NP) | US | 10/648909 | US7562345 |
| 876093-US-NP (formerly Jennen 4-3 (JG)-US-NP) | US | 10/853825 | US7650081 |
| 855792-US-NP (formerly Bi 57-36-4 (Q)-US-NP) | US | 11/427639 | US7660606 |
| 891349-US-NP (formerly Stewart 10 (GM)-US-NP) | US | 10/140150 | US7668899 |
| 137799-US-NP | US | 10/833748 | US7716366 |
| 859982-US-NP (formerly Cai 78-7 (Y)-US-NP) | US | 11/425196 | US7725104 |
| 882930-US-NP (formerly McKinstrie 13-18 (CJ)-US-NP) | US | 12/259389 | US7764423 |
| 885673-US-NP (formerly Ong 11 (P)-US-NP) | US | 09/201749 | US7765179 |

| Case Reference | Country | Application Number | Grant Number |
|--|---------|--------------------|--------------|
| 893289-US-NP (formerly Wang 3 (Y)-US-NP) | US | 11/651213 | US7782901 |
| 887783-US-NP (formerly Rasras 20 (M)-US-NP) | US | 12/103540 | US7822298 |
| 866406-US-NP (formerly Dueik 7-2 (M)-US-NP) | US | 11/772135 | US7822915 |
| 805939-US-CNT[2] | US | 14/279482 | US9030960 |
| 858357-US-NP (formerly Brueck 12-31-6-37 (S)-US-NP) | US | 11/614140 | US9204403 |
| 874519-US-CNT (formerly Hilt 6-12 (V)-US-CNT) | us | 14/939587 | US9847942 |