

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT4815736

<b>SUBMISSION TYPE:</b>	CORRECTIVE ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	Corrective Assignment to correct the ANDREA BONAFANTE 03/06/2017 TO BE OMITTED previously recorded on Reel 044575 Frame 0065. Assignor(s) hereby confirms the ADRIAN J GARCIA RODRIGUEZ GIOVANNI GERACI DAVID LOPEZ PEREZ LORENZO GALATI GIORDANO.
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
GIOVANNI GERACI	03/03/2017
ADRIAN J GARCIA RODRIGUEZ	03/03/2017
LORENZO GALATI GIORDANO	03/03/2017
DAVID LOPEZ PEREZ	03/03/2017
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	ALCATEL LUCENT IRELAND LTD.
<b>Street Address:</b>	BLANCHARDSTOWN BUSINESS AND TECHNOLOGY PARK
<b>City:</b>	BLANCHARDSTOWN, DUBLIN 15
<b>State/Country:</b>	IRELAND
<b>Postal Code:</b>	D15Y6NT
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	15446313
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(512)355-1119
<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>	5125822455
<b>Email:</b>	jacqui.brodsky@ds-patent.com, ipsnarocp@nokia.com
<b>Correspondent Name:</b>	DAVIDSON SHEEHAN LLP
<b>Address Line 1:</b>	8834 NORTH CAPITAL OF TEXAS HWY
<b>Address Line 2:</b>	SUITE 100
<b>Address Line 4:</b>	AUSTIN, TEXAS 78759
<b>ATTORNEY DOCKET NUMBER:</b>	4100-820278-US
<b>NAME OF SUBMITTER:</b>	JACQUI BRODSKY
<b>SIGNATURE:</b>	/Jacqui Brodsky/
<b>DATE SIGNED:</b>	02/08/2018

**Total Attachments: 7**

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Electronic Version v1.1  
Stylesheet Version v1.2

SUBMISSION TYPE:	NEW ASSIGNMENT												
NATURE OF CONVEYANCE:	ASSIGNMENT												
CONVEYING PARTY DATA													
<table><tr><th>Name</th><th>Execution Date</th></tr><tr><td>ADRIAN J GARCIA RODRIGUEZ</td><td>03/03/2017</td></tr><tr><td>GIOVANNI GERACI</td><td>03/03/2017</td></tr><tr><td>DAVID LOPEZ PEREZ</td><td>03/03/2017</td></tr><tr><td>LORENZO GALATI GIORDANO</td><td>03/03/2017</td></tr><tr><td>ANDREA BONFANTE</td><td>03/06/2017</td></tr></table>		Name	Execution Date	ADRIAN J GARCIA RODRIGUEZ	03/03/2017	GIOVANNI GERACI	03/03/2017	DAVID LOPEZ PEREZ	03/03/2017	LORENZO GALATI GIORDANO	03/03/2017	ANDREA BONFANTE	03/06/2017
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ANDREA BONFANTE	03/06/2017												
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<table><tr><td>Name:</td><td>ALCATEL-LUCENT IRELAND LTD.</td></tr><tr><td>Street Address:</td><td>BLANCHARDSTOWN BUSINESS AND TECHNOLOGY PARK, SNUGBOROUGH ROAD</td></tr><tr><td>City:</td><td>BLANCHARDSTOWN</td></tr><tr><td>State/Country:</td><td>IRELAND</td></tr><tr><td>Postal Code:</td><td>D15Y6NT</td></tr></table>		Name:	ALCATEL-LUCENT IRELAND LTD.	Street Address:	BLANCHARDSTOWN BUSINESS AND TECHNOLOGY PARK, SNUGBOROUGH ROAD	City:	BLANCHARDSTOWN	State/Country:	IRELAND	Postal Code:	D15Y6NT		
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Application Number:	15446313												
CORRESPONDENCE DATA													
Fax Number: (512)355-1119 Phone: 5125822455 Email: jacqui.brodsky@ds-patent.com, ipsnarocp@nokia.com <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> Correspondent Name: DAVIDSON SHEEHAN LLP Address Line 1: 8834 NORTH CAPITAL OF TEXAS HWY Address Line 2: SUITE 100 Address Line 4: AUSTIN, TEXAS 78759													
ATTORNEY DOCKET NUMBER:	4100-820278-US												
NAME OF SUBMITTER:	JACQUI BRODSKY												
Signature:	/Jacqui Brodsky/												

PATENT

REEL: 045285 FRAME: 0083

Date:		01/09/2018
<b>Total Attachments: 6</b> source=820278 Executed GERACI Assignment#page1.tif source=820278 Executed GERACI Assignment#page2.tif source=820278 Executed GERACI Assignment#page3.tif source=820278 Executed GERACI Assignment#page4.tif source=820278 Executed GERACI Assignment#page5.tif source=820278 Executed GERACI Assignment#page6.tif		
<b>RECEIPT INFORMATION</b>		
EPAS ID:	PAT4767300	
Receipt Date:	01/09/2018	

PATENT

REEL: 045285 FRAME: 0084

## ASSIGNMENT OF INVENTION

For good and valuable consideration, the receipt of which is hereby acknowledged, I, an ASSIGNOR named below,

**Giovanni Geraci** of Dublin, Ireland  
**Adrian J. Garcia Rodriguez** of Blanchardstown, Ireland  
**Lorenzo Galati Giordano** of Blanchardstown, Ireland  
**David Lopez Perez** of Blanchardstown, Ireland

hereby sell, assign and transfer to

ASSIGNEE: **Alcatel-Lucent Ireland Ltd.**, a corporation having a place of business at Blanchardstown Business and Technology Park, Snugborough Road, Blanchardstown, Dublin 15 Ireland

its successors, assigns and legal representatives, my entire right, title and interest throughout the world, including all rights to claim priority, in and to the invention(s) disclosed in:

- ☐ U.S. Patent Application executed on or about the date of this Assignment,
- ☐ U.S. Patent Application executed on \_\_\_\_\_, or
- ☐ U.S. Provisional Application No. \_\_\_\_\_ filed on \_\_\_\_\_
- ☒ U.S. Application No.: 15/446,313, filed on March 1, 2017
- ☐ International Application No.: PCT/ \_\_\_\_\_, filed on \_\_\_\_\_

ENTITLED: **ADAPTIVE ALLOCATION OF TEMPORAL RESOURCES FOR MASSIVE MULTIPLE-INPUT-MULTIPLE-OUTPUT (mIMO) IN UNLICENSED FREQUENCY BANDS**, having

REFERENCE NO.: **4100-820278-US**, and naming as

INVENTORS: **Giovanni Geraci, Adrian J. Garcia Rodriguez, Lorenzo Galati Giordano, and David Lopez Perez**

including without limitation, my entire right, title and interest in and to any and all U.S. and foreign applications (including international, regional and foreign national applications) for said invention(s), including divisions, continuations, continuations-in-part, renewals, substitutes and extensions thereof, and in and to any and all patents of every country or region that may be granted or have been granted for said invention(s), including any reissues and reexaminations thereof.

To comply with 37 C.F.R. § 3.21 for recording this Assignment, I authorize and request that the application number and filing date be inserted here, if not already shown above, (\_\_\_\_\_/\_\_\_\_\_, filed \_\_\_\_\_) when they become known.

I authorize ASSIGNEE to apply for patents of foreign countries for said invention(s), and to claim all rights of priority without further authorization from me.

I agree to execute any and all papers useful in connection with any and all U.S. and foreign applications (including international, regional, and foreign national applications), and generally to do everything possible to aid ASSIGNEE, its successors, assigns and nominees, at their request and reasonable expense, in obtaining and enforcing patents for said invention(s) in all countries.

I hereby covenant that no assignment, sale, license, agreement, or encumbrance has been or will be made or entered into that would conflict with this Assignment.

Inventor:

Giovanni Geraci (Signature) 03/03/2017 (Date)  
**Giovanni Geraci**

Witness:

Dong Fang (Signature) 03/03/2017 (Date)  
DONG FANG (Print Name)

I hereby covenant that no assignment, sale, license, agreement, or encumbrance has been or will be made or entered into that would conflict with this Assignment.

Inventor:

[Signature] (Signature) 03/23/2017 (Date)

**Adrian J. Garcia Rodriguez**

Witness:

Dong Fang (Signature) 03/03/2017 (Date)  
DONG FANG (Print Name)

I hereby covenant that no assignment, sale, license, agreement, or encumbrance has been or will be made or entered into that would conflict with this Assignment.

Inventor:

Lorenzo Galati Giordano (Signature) 3/3/2017 (Date)

**Lorenzo Galati Giordano**

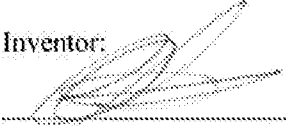
Witness:

Dong Fang (Signature) 03/03/2017 (Date)  
DONG FANG (Print Name)



I hereby covenant that no assignment, sale, license, agreement, or encumbrance has been or will be made or entered into that would conflict with this Assignment.

Inventor:

 (Signature) 03/03/2017 (Date)

**David Lopez Perez**

Witness:

Dong Fang (Signature) 03/03/2017 (Date)  
DONG FANG (Print Name)