505298711 01/28/2019

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5345488

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
THOMAS NOVLAN	01/18/2019
SALAM AKOUM	01/05/2017
ARUNABHA GHOSH	01/06/2017
MILAP MAJMUNDAR	01/05/2017

RECEIVING PARTY DATA

Name:	AT&T INTELLECTUAL PROPERTY I, L.P.
Street Address:	675 W. PEACHTREE STREET
Internal Address:	SUITE 4000
City:	ATLANTA
State/Country:	GEORGIA
Postal Code:	30308

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16258923

CORRESPONDENCE DATA

Fax Number: (216)696-8731

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: 2166968730

Email: epas@thepatentattorneys.com

Correspondent Name: AT&T LEGAL DEPARTMENT - T&W ATTN: PATEN

Address Line 1: ONE AT&T WAY
Address Line 2: ROOM 2A-207

Address Line 4: BEDMINSTER, NEW JERSEY 07921

Tatal Attackments 0	
DATE SIGNED:	01/28/2019
SIGNATURE:	/Braxton K. Davis/
NAME OF SUBMITTER:	BRAXTON K. DAVIS
ATTORNEY DOCKET NUMBER:	2016-2160 CON/ATTWP873USA

Total Attachments: 8

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Docket No. 2016-2160

ASSIGNMENT

WHEREAS I, Thomas Novlan residing at 1304 Northridge Dr., Austin, TX 78723, hereafter referred to as Assignor, am listed as an inventor on a patent application entitled "FACILITATION OF NEW RADIO RANDOM ACCESS CHANNELS FOR 5G OR OTHER NEXT GENERATION NETWORK," having AT&T Docket No. 2016-2160, he patent application to be filed in the United States Patent & Trademark Office, or which was filed as U.S. Patent Application Serial No 15/399,573 on January 5, 2017; and

WHEREAS, AT&T INTELLECTUAL PROPERTY I, L.P., a Partnership organized and existing under the laws of Georgia and having an address at 675 W. Peachtree Street, Suite 4000, Atlanta, GA 30308 (hereinafter referred to as Assignee), desires to acquire the entire right, title and interest for the United States of America and elsewhere throughout the world in and to said invention and the patent application identified above, including any and all divisions and continuations thereof and any and all Letters Patent which may be granted thereon, including any and all renewals, reissues and prolongations thereto;

NOW THEREFORE, be it known that for and in consideration of the sum of Ten Dollars (\$10.00) and other good and valuable consideration the receipt of which from Assignee is hereby acknowledged, I, as Assignor, have sold, assigned, transferred, and set over, and do hereby sell, assign, transfer, and set over unto the Assignee, its lawful successors and assigns, my entire right, title, and interest in and to this invention and this non-provisional application, and all divisions, substitutions, and continuations thereof; and all Letters Patent of the United States which may be granted thereon, and all reexaminations and reissues thereof; and all rights to claim priority on the basis of the above provisional application (if any), as well as all rights to claim priority on the basis of this application; and all applications for Letters Patent which may hereafter be filed for this invention in any foreign country and all Letters Patent which may be granted on this invention in any foreign country, including certificates of inventions, utility models, industrial design protection, design patent protection, and other governmental grants or issuances; and all extensions, renewals, prolongations, and reissues thereof; to have and to hold for the sole and exclusive use and benefit of the Assignee, its successors and assigns, to the full end of the term and terms for all such patents;

AND, I HEREBY authorize and request the Commissioner of Patents and Trademarks of the United States and any official of any foreign country whose duty it is to issue patents on applications as described above, to issue all Letters Patent for this invention to Assignee, its successors and assigns, in accordance with the terms of this Assignment;

AND, I HEREBY covenant that I have the full right to convey the interest assigned by this Assignment, and I have not executed and will not execute any assignment, sale, license, agreement, or encumbrance in conflict with this Assignment;

AND, I HEREBY further covenant and agree, for the Assignor and the Assignor's legal representatives, that I will, without further consideration, communicate with Assignee, its successors and assigns, any facts known to us respecting this invention; assist the Assignee in the prosecution of the patent application identified above; assist in the making and prosecution of any other patent applications that the Assignee may elect to make covering the invention identified above; testify in any interference, litigation, or other legal proceeding; sign all lawful papers when called upon to do so; execute and deliver any and all papers that may be necessary or desirable to perfect the title to this invention in said Assignee, its successors or assigns; execute all divisional, continuation, and reissue applications; make all rightful

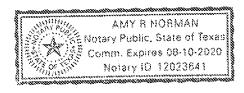
oaths and generally do everything possible to aid Assignee, to obtain and enforce proper patent protection for this invention in the United States and any foreign country, it being understood that any expense incident to the execution of such papers shall be borne by the Assignee; and hereby instruct, and further covenant and agree to bind our heirs, legal representatives, and assigns, to do same, without compensation, but at the expense of Assignee or its representatives.

AND, I HEREBY consent that a copy of this assignment shall be deemed a full legal and formal equivalent of any document which may be required in any country in proof of the right of AT&T INTELLECTUAL PROPERTY I, L.P. to apply for patent or other form of protection for said inventions and to claim the aforesaid benefit of the right of priority.

This Assignment may be executed in any number of counterparts, each of which when so executed and delivered shall be deemed an original, and such counterparts together shall constitute one and the same instrument. A facsimile copy of this Assignment, or any form of an electronic copy of this Assignment, including the signature pages hereto, shall be deemed to be an original.

IN TESTIMONY WHEREOF, I have hereunto set my hand this 18 day of,
Thomas Novlan
State of Texas
County of Iravis
On this Aday of January, 2019, before me a Notary Public in and for the above County and State, personally appeared Thomas Notary Public in and for the above County and State, personally appeared Thomas Notary Public in and for the above County and State, personally appeared Thomas Notary Public in and for the above County and State, personally appeared Thomas Notary Public in and for the above County and State, personally appeared Thomas Notary Public in and for the above County and State, personally appeared Thomas Notary Public in and for the above County and State, personally appeared Thomas Notary Public in and for the above County and State, personally appeared Thomas Notary Public in and for the above County and State, personally appeared Thomas Notary Public in and for the above County and State, personally appeared Thomas Notary Public in and for the above County and State, personally appeared Thomas Notary Public in and for the above County and State (Notary Public in and for the above County Notary Public in and for the above County Notary Public in and State (Notary
herein set forth.
Any R. Norman
Notary Public My Commission Expires: 8 10 20

Page 2 of 2



ASSIGNMENT

WHEREAS I, Salam Akoum residing at 801 W 5th Street, Apt 1608, Austin, TX 78703, hereafter referred to as Assignor, am listed as an inventor on a patent application entitled "FACILITATION OF NEW RADIO RANDOM ACCESS CHANNELS FOR 5G OR OTHER NEXT GENERATION NETWORK," having AT&T Docket No. 2016-2160, the patent application to be filed in the United States Patent & Trademark Office; and

WHEREAS, AT&T INTELLECTUAL PROPERTY I, L.P., a Partnership organized and existing under the laws of Georgia and having an address at 675 W. Peachtree Street, Suite 4000, Atlanta, GA 30308 (hereinafter referred to as Assignee), desires to acquire the entire right, title and interest for the United States of America and elsewhere throughout the world in and to said invention and the patent application identified above, including any and all divisions and continuations thereof and any and all Letters Patent which may be granted thereon, including any and all renewals, reissues and prolongations thereto;

NOW THEREFORE, be it known that for and in consideration of the sum of Ten Dollars (\$10.00) and other good and valuable consideration the receipt of which from Assignee is hereby acknowledged, I, as Assignor, have sold, assigned, transferred, and set over, and do hereby sell, assign, transfer, and set over unto the Assignee, its lawful successors and assigns, my entire right, title, and interest in and to this invention and this non-provisional application, and all divisions, substitutions, and continuations thereof; and all Letters Patent of the United States which may be granted thereon, and all reexaminations and reissues thereof; and all rights to claim priority on the basis of the above provisional application (if any), as well as all rights to claim priority on the basis of this application; and all applications for Letters Patent which may hereafter be filed for this invention in any foreign country and all Letters Patent which may be granted on this invention in any foreign country, including certificates of inventions, utility models, industrial design protection, design patent protection, and other governmental grants or issuances; and all extensions, renewals, prolongations, and reissues thereof; to have and to hold for the sole and exclusive use and benefit of the Assignee, its successors and assigns, to the full end of the term and terms for all such patents;

AND, I HEREBY authorize and request the Commissioner of Patents and Trademarks of the United States and any official of any foreign country whose duty it is to issue patents on applications as described above, to issue all Letters Patent for this invention to Assignee, its successors and assigns, in accordance with the terms of this Assignment;

AND, I HEREBY covenant that I have the full right to convey the interest assigned by this Assignment, and I have not executed and will not execute any assignment, sale, license, agreement, or encumbrance in conflict with this Assignment:

AND, I HEREBY further covenant and agree, for the Assignor and the Assignor's legal representatives, that I will, without further consideration, communicate with Assignee, its successors and assigns, any facts known to us respecting this invention; assist the Assignee in the prosecution of the patent application identified above; assist in the making and prosecution of any other patent applications that the Assignee may elect to make covering the invention identified above; testify in any interference, litigation, or other legal proceeding; sign all lawful papers when called upon to do so; execute and deliver any and all papers that may be necessary or desirable to perfect the title to this invention in said Assignee, its successors or assigns; execute all divisional, continuation, and reissue applications; make all rightful oaths and generally do everything possible to aid Assignee, to obtain and enforce proper patent protection for this invention in the United States and any foreign country, it being understood that any expense

incident to the execution of such papers shall be borne by the Assignee; and hereby instruct, and further covenant and agree to bind our heirs, legal representatives, and assigns, to do same, without compensation, but at the expense of Assignee or its representatives.

AND, I HEREBY consent that a copy of this assignment shall be deemed a full legal and formal equivalent of any document which may be required in any country in proof of the right of AT&T INTELLECTUAL PROPERTY I, L.P. to apply for patent or other form of protection for said inventions and to claim the aforesaid benefit of the right of priority.

This Assignment may be executed in any number of counterparts, each of which when so executed and delivered shall be deemed an original, and such counterparts together shall constitute one and the same instrument. A facsimile copy of this Assignment, or any form of an electronic copy of this Assignment, including the signature pages hereto, shall be deemed to be an original.

	DF, I have hereunto set my hand this <u>S</u> day of <u>Sanuary</u> ,
20 <u>13</u> .	A S
	Salam Akoum
State of <u>Texas</u>)	8
County of Travis	
acknowledged the execution of the f	
herein set forth. Amy R., Asrman Notary Public	0 10 10
My Commis	ssion Expires: 8 - 10 - 20
	AMY R NORMAN Notary Public, State of Texas Comm. Expires 08-10-2020 Notary ID 12023641

ASSIGNMENT

WHEREAS I, Arunabha Ghosh residing at 9805 Bundoran Dr., Austin, TX 78717, hereafter referred to as Assignor, am listed as an inventor on a patent application entitled "FACILITATION OF NEW RADIO RANDOM ACCESS CHANNELS FOR 5G OR OTHER NEXT GENERATION NETWORK," having AT&T Docket No. 2016-2160, the patent application to be filed in the United States Patent & Trademark Office; and

WHEREAS, AT&T INTELLECTUAL PROPERTY I, L.P., a Partnership organized and existing under the laws of Georgia and having an address at 675 W. Peachtree Street, Suite 4000, Atlanta, GA 30308 (hereinafter referred to as Assignee), desires to acquire the entire right, title and interest for the United States of America and elsewhere throughout the world in and to said invention and the patent application identified above, including any and all divisions and continuations thereof and any and all Letters Patent which may be granted thereon, including any and all renewals, reissues and prolongations thereto;

NOW THEREFORE, be it known that for and in consideration of the sum of Ten Dollars (\$10.00) and other good and valuable consideration the receipt of which from Assignee is hereby acknowledged, I, as Assignor, have sold, assigned, transferred, and set over, and do hereby sell, assign, transfer, and set over unto the Assignee, its lawful successors and assigns, my entire right, title, and interest in and to this invention and this non-provisional application, and all divisions, substitutions, and continuations thereof; and all Letters Patent of the United States which may be granted thereon, and all reexaminations and reissues thereof; and all rights to claim priority on the basis of the above provisional application (if any), as well as all rights to claim priority on the basis of this application; and all applications for Letters Patent which may hereafter be filed for this invention in any foreign country and all Letters Patent which may be granted on this invention in any foreign country, including certificates of inventions, utility models, industrial design protection, design patent protection, and other governmental grants or issuances; and all extensions, renewals, prolongations, and reissues thereof; to have and to hold for the sole and exclusive use and benefit of the Assignee, its successors and assigns, to the full end of the term and terms for all such patents;

AND, I HEREBY authorize and request the Commissioner of Patents and Trademarks of the United States and any official of any foreign country whose duty it is to issue patents on applications as described above, to issue all Letters Patent for this invention to Assignee, its successors and assigns, in accordance with the terms of this Assignment;

AND, I HEREBY covenant that I have the full right to convey the interest assigned by this Assignment, and I have not executed and will not execute any assignment, sale, license, agreement, or encumbrance in conflict with this Assignment;

AND, I HEREBY further covenant and agree, for the Assignor and the Assignor's legal representatives, that I will, without further consideration, communicate with Assignee, its successors and assigns, any facts known to us respecting this invention; assist the Assignee in the prosecution of the patent application identified above; assist in the making and prosecution of any other patent applications that the Assignee may elect to make covering the invention identified above; testify in any interference, litigation, or other legal proceeding; sign all lawful papers when called upon to do so; execute and deliver any and all papers that may be necessary or desirable to perfect the title to this invention in said Assignee, its successors or assigns; execute all divisional, continuation, and reissue applications; make all rightful oaths and generally do everything possible to aid Assignee, to obtain and enforce proper patent protection for this invention in the United States and any foreign country, it being understood that any expense

incident to the execution of such papers shall be borne by the Assignee; and hereby instruct, and further covenant and agree to bind our heirs, legal representatives, and assigns, to do same, without compensation, but at the expense of Assignee or its representatives.

AND, I HEREBY consent that a copy of this assignment shall be deemed a full legal and formal equivalent of any document which may be required in any country in proof of the right of AT&T INTELLECTUAL PROPERTY I, L.P. to apply for patent or other form of protection for said inventions and to claim the aforesaid benefit of the right of priority.

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201 3 ::	TESTIMONY WHEREOF, I have hereunto set my hand this <u>6</u> day of <u>January</u> .
	Arunabha Ghosh
State of	Texes ()
County of _	Traviz
On this Land State, packnowledgherein set for	day of <u>January</u> , 2017, before me a Notary Public in and for the above County ersonally appeared <u>Arvasska Ghoss</u> , and ed the execution of the foregoing assignment as his/her free act and deed for the purpose onto
Anu- Notary Pi)b	<u>R. Aoman</u>
Ken	My Commission Expires: 2-10-20
	AMY R NORMAN AMY Public, State of Texas State of Section 08-10-2020

Page 2 of 2

PATENT REEL: 048153 FRAME: 0127

Notery 10 12023641

ASSIGNMENT

WHEREAS I, Milap Majmundar residing at 9620 Cinnabar Trail, Austin, TX 78726, hereafter referred to as Assignor, am listed as an inventor on a patent application entitled "FACILITATION OF NEW RADIO RANDOM ACCESS CHANNELS FOR 5G OR OTHER NEXT GENERATION NETWORK," having AT&T Docket No. 2016-2160, the patent application to be filed in the United States Patent & Trademark Office; and

WHEREAS, AT&T INTELLECTUAL PROPERTY I, L.P., a Partnership organized and existing under the laws of Georgia and having an address at 675 W. Peachtree Street, Suite 4000, Atlanta, GA 30308 (hereinafter referred to as Assignee), desires to acquire the entire right, title and interest for the United States of America and elsewhere throughout the world in and to said invention and the patent application identified above, including any and all divisions and continuations thereof and any and all Letters Patent which may be granted thereon, including any and all renewals, reissues and prolongations thereto:

NOW THEREFORE, be it known that for and in consideration of the sum of Ten Dollars (\$10.00) and other good and valuable consideration the receipt of which from Assignee is hereby acknowledged, I, as Assignor, have sold, assigned, transferred, and set over, and do hereby sell, assign, transfer, and set over unto the Assignee, its lawful successors and assigns, my entire right, title, and interest in and to this invention and this non-provisional application, and all divisions, substitutions, and continuations thereof; and all Letters Patent of the United States which may be granted thereon, and all reexaminations and reissues thereof; and all rights to claim priority on the basis of the above provisional application (if any), as well as all rights to claim priority on the basis of this application; and all applications for Letters Patent which may hereafter be filed for this invention in any foreign country and all Letters Patent which may be granted on this invention in any foreign country, including certificates of inventions, utility models, industrial design protection, design patent protection, and other governmental grants or issuances; and all extensions, renewals, prolongations, and reissues thereof; to have and to hold for the sole and exclusive use and benefit of the Assignee, its successors and assigns, to the full end of the term and terms for all such patents;

AND, I HEREBY authorize and request the Commissioner of Patents and Trademarks of the United States and any official of any foreign country whose duty it is to issue patents on applications as described above, to issue all Letters Patent for this invention to Assignee, its successors and assigns, in accordance with the terms of this Assignment;

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AND, I HEREBY further covenant and agree, for the Assignor and the Assignor's legal representatives, that I will, without further consideration, communicate with Assignee, its successors and assigns, any facts known to us respecting this invention; assist the Assignee in the prosecution of the patent application identified above; assist in the making and prosecution of any other patent applications that the Assignee may elect to make covering the invention identified above; testify in any interference, litigation, or other legal proceeding; sign all lawful papers when called upon to do so; execute and deliver any and all papers that may be necessary or desirable to perfect the title to this invention in said Assignee, its successors or assigns; execute all divisional, continuation, and reissue applications; make all rightful oaths and generally do everything possible to aid Assignee, to obtain and enforce proper patent protection for this invention in the United States and any foreign country, it being understood that any expense

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This Assignment may be executed in any number of counterparts, each of which when so executed and delivered shall be deemed an original, and such counterparts together shall constitute one and the same instrument. A facsimile copy of this Assignment, or any form of an electronic copy of this Assignment, including the signature pages hereto, shall be deemed to be an original.

	IN TESTIMONY WHEREOF, I have hereunto set my hand this 5th day of January,
	$20\overline{17}$.
	Miles Mymmles
	Milap Majmundar
	State of Texas
	County of Williamson
	On this 5 day of Sanuary, 20 7, before me a Notary Public in and for the above County and State, personally appeared Milap Maymundar, and acknowledged the execution of the foregoing assignment as his/her free act and deed for the purpose
	and State, personally appeared Milap Ma Muncar, and acknowledged the execution of the foregoing assignment as his/her free act and deed for the purpose
	herein set forth.
	nerom set rotal.
	HIMPATRICK HIGH
,	Notary Public My Commission Expires: May 20, 2018
	Notary Public
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	Notary Public My Commission Expires: May 20, 2018 My Commission Expires: May 20, 2018 My Commission Expires: May 20, 2018
	Page 2 of 2

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PATENT REEL: 048153 FRAME: 0129

RECORDED: 01/28/2019