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PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE: NEW ASSIGNMENT NATURE OF CONVEYANCE: ASSIGNMENT

EPAS ID: PAT5347326

CONVEYING PARTY DATA

Name	Execution Date
PAUL SHALA HENRY	07/08/2015
ROBERT BENNETT	07/08/2015
FARHAD BARZEGAR	07/09/2015
IRWIN GERSZBERG	07/08/2015
DONALD J BARNICKEL	07/08/2015
THOMAS M WILLIS III	07/13/2015

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:	16255169

CORRESPONDENCE DATA

Fax Number: (847)510-0710

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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AT&T LEGAL DEPARTMENT - GG ATTN: PATENT Correspondent Name:

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ATTORNEY DOCKET NUMBER:	7785-1192-02
NAME OF SUBMITTER:	STACEY HILL
SIGNATURE:	/Stacey Hill/
DATE SIGNED:	01/29/2019

PAIENI **REEL: 048162 FRAME: 0408** 505300548

Total Attachments: 8 source=7785-1192 SIGNED ASSIGNMENT#page1.tif source=7785-1192 SIGNED ASSIGNMENT#page2.tif source=7785-1192 SIGNED ASSIGNMENT#page3.tif source=7785-1192 SIGNED ASSIGNMENT#page4.tif source=7785-1192 SIGNED ASSIGNMENT#page5.tif source=7785-1192 SIGNED ASSIGNMENT#page6.tif source=7785-1192 SIGNED ASSIGNMENT#page7.tif source=7785-1192 SIGNED ASSIGNMENT#page8.tif

PATENT REEL: 048162 FRAME: 0409

ASSIGNMENT

WHEREAS We, **PAUL SHALA HENRY**, residing at 7 Crow Field Lane, Holmdel, NJ 07733, and **ROBERT BENNETT**, residing at 1540 North Bayview Rd EXT, Southold, NY 11971, and **FARHAD BARZEGAR**, residing at 14 FARRINGTON LANE, BRANCHBURG, NJ 08876, and **IRWIN GERSZBERG**, residing at 12 Dickinson Road, Kendall Park, NJ 08824, and **DONALD J BARNICKEL**, residing at 3 Wells Road, Flemington, NJ 08822, and **THOMAS M. WILLIS III**, residing at 10 Beverly Court, Tinton Falls, NJ 07724, hereinafter referred to as Assignor, am listed as an inventor on a patent application entitled METHOD AND APPARATUS FOR LAUNCHING A WAVE MODE THAT MITIGATES INTERFERENCE; having AT&T Docket No. 2015-0359, the patent application to be filed in the United States Patent & Trademark Office; and

WHEREAS, AT&T INTELLECTUAL PROPERTY I, LP, a Partnership organized and existing under the laws of Nevada 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.

Page 1 of 8

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, LP** 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 day of July, 2015. PAUL SHALA HENRY
State of New Tersey County of Monniouth
County of Monnialta
On this State, personally appeared Paul Shala Henry, and acknowledged the execution of the foregoing assignment as his/her free act and deed for the purpose
herein set forth.
Notary Public My Commission Expires: 1421/2019

IN TESTIMONY WHEREOF, I have hereunto set my hand this 8 day of July, 2015. ROBERT BENNETT
State of New Tersey) County of Monmonth
County of Monmonth)
On this 2 day of July, 2015, before me a Notary Public in and for the above County and State, personally appeared Robert Bennett,
and acknowledged the execution of the foregoing assignment as his/her free act and deed for the purpose
herein set forth.
Notary Public My Commission Expires: 10/21/2019

VALERIE SCHUMACHER NOTARY PUBLIC OF NEW JERSEY ID # 50004989 My Commission Expires 10/21/2019

IN TESTIMONY WHEREOF, I have hereunto set my hand this 9 day of July, 2015. FARHAD BARZECAR
State of New Jersey)
State of New Jersey) County of Monmouth
On this The day of July . 2015, before me a Notary Public in and for the above County and State, personally appeared Farhacl Rarzegar, and acknowledged the execution of the foregoing assignment as his/her free act and deed for the purpose
herein set forth.
Valerie Schumack
Notary Public My Commission Expires: $10/21/2019$
VALERIE SCHUMACHER *OTARY PUBLIC OF NEW JERSEY ID # 50004989

My Commission Expires 10/21/2019

IN TESTIMONY WHEREOF, I have hereunto set my hand this 3 day of $30(4)$, 2015.	**
IRWIN GERSZBERG	49
State of New Jersey) County of Monmowth	
On this State, personally appeared Truin Gerszberg, and acknowledged the execution of the foregoing assignment as his/her free act and deed for the purpose herein set forth.	
Valerie Schumache Notary Public My Commission Expires: 10/21/2019	₹ ₁

VALERIE SCHUMACHER NOTARY PUBLIC OF NEW JERSEY ID # 50004989 My Commission Expires 10/21/2019

IN TESTIMONY WHEREOF, I have hereunto set my hand this S day of VOLY , 2015.
DONALD J BARNICKEL
State of New Jersey) County of Monmouth
On this day of Juy, 2015, before me a Notary Public in and for the above County and State, personally appeared Donald J. Barnicke (,
and acknowledged the execution of the foregoing assignment as his/her free act and deed for the purpose
herein set forth.
Notary Public My Commission Expires: 10/21/2019 VALERIE SCHUMACHER
NOTARY PUBLIC OF NEW JERSEY

ID # 50004989 My Commission Expires 10/21/2019

IN TESTIMONY WHEREOF, I have hereunto set my hand this
State of New Tersey)
County of Monne outh
On this 13th day of July, 2015, before me a Notary Public in and for
the above County and State, personally appeared Thomas H. Willis III,
and acknowledged the execution of the foregoing assignment as his/her free act and deed for the purpose
herein set forth.
Valerie Schumar Q
Notary Public My Commission Expires: 10/21/2019