

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
 Stylesheet Version v1.2

EPAS ID: PAT5788124

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
CONVEYING PARTY DATA	
Name	Execution Date
TIMOTHY A. THOMAS	03/05/2019
DENNIS OGBE	02/28/2019
KIRAN VENUGOPAL	03/06/2019
AMITABHA GHOSH	02/28/2019
RECEIVING PARTY DATA	
Name:	NOKIA TECHNOLOGIES OY
Street Address:	KARAPORTTI 3
City:	ESPOO
State/Country:	FINLAND
Postal Code:	02610
PROPERTY NUMBERS Total: 1	
Property Type	Number
Application Number:	16608350
CORRESPONDENCE DATA	
Fax Number:	(202)457-6315
<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>	
Phone:	202-457-6000
Email:	IP-Squire@SquirePB.com, douglas.goldhush@squirepb.com, sonia.whitney@squirepb.com
Correspondent Name:	SQUIRE PATTON BOGGS (US) LLP NOKIA TECHN
Address Line 1:	ATTN: IP DEPARTMENT
Address Line 2:	2550 M STREET, NW
Address Line 4:	WASHINGTON, D.C. 20037
ATTORNEY DOCKET NUMBER:	059864.03044
NAME OF SUBMITTER:	DOUGLAS H. GOLDHUSH
SIGNATURE:	/Douglas H. Goldhush/
DATE SIGNED:	10/25/2019
Total Attachments: 6 source=059864_03044-Assignment#page1.tif	

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ASSIGNMENT - WORLDWIDE

ASSIGNOR(S)

Timothy A. Thomas, Palatine, Illinois, United States of America**Dennis Ogbe**, Lafayette, United States of America**Kiran Venuopal**, Austin, Texas, United States of America**Amitabha Ghosh**, Buffalo Grove, Illinois, United States of America

ASSIGNEE

Nokia Technologies Oy

Karaportti 3, 02610 Espoo, Finland

For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the ASSIGNOR(S) agree to assign and hereby assign, sell, transfer and set over to the ASSIGNEE and its successors, assigns and legal representatives, the entire right, title and interest, for United States of America and for all other countries in and to (1) the invention(s) identified by the following title or application number and filing date, and (2) any and all related inventions ("RELATED INVENTIONS" as defined below).

Title: FREQUENCY-DOMAIN TRANSMITTERS AND RECEIVERS WHICH ADAPT TO DIFFERENT SUBCARRIER SPACING CONFIGURATIONS

Application number: **WO PCT/US2017/030141** Filing date: **2017-04-28**
(YYYY-MM-DD)

I/we, the ASSIGNOR(S), hereby authorize and request a representative of the ASSIGNEE to insert the application number and filing date when known/received, after the execution of this document. The ASSIGNOR(S) hereby acknowledge and agree that the ASSIGNEE shall have the right to claim priority, directly or through another patent application, to the application identified above in any and all related patent applications subsequently filed in all jurisdictions.

I/we the ASSIGNOR(S) hereby acknowledge and agree that RELATED INVENTIONS include all national, regional and international patent applications filed and to be filed in any and all jurisdictions, that claim priority to the invention(s) identified by the above title or application number and filing date, said patent applications include all divisionals, continuations, re-issues, re-examinations, and continuations-in-part applications, and RELATED INVENTIONS include all rights and privileges in said patent applications and under any and all letters patent that may be granted in the United States of America and in all other countries resulting from said patent applications.

The ASSIGNOR(S) authorize the ASSIGNEE to make applications for such protection in its own name and maintain such protection in any and all countries including the United States of America, and to invoke and claim for any application for patent or other form of protection for said

invention(s), without further authorization from us, any and all benefits, including the rights of priority provided by any and all treaties, conventions, or agreements.

The ASSIGNOR(S) 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 the ASSIGNEE to apply for patent or other form of protection for said invention(s) and to claim the aforesaid benefit of the right of priority.

The ASSIGNOR(S) request that any and all patents for said invention(s) be issued to the ASSIGNEE, its/their successors, assigns and legal representatives, in the United States of America and in all other countries, or to such nominees as the ASSIGNEE may designate.

The ASSIGNOR(S) agree that, when requested, we shall, without charge to the ASSIGNEE sign all papers, and do all acts which may be necessary, desirable or convenient in connection with said applications, patents, or other forms of protection.

In witness whereof, each inventor/assignor please sign and date below:

Inventor (First Middle LAST)	Signature	Date (YYYY-MM-DD)
<u>Timothy A. Thomas</u>	<u><i>Timothy A. Thomas</i></u>	<u>2019-07-05</u>
<u>Dennis Ogbe</u>	_____	_____
<u>Kiran Venugopal</u>	_____	_____
<u>Amitabha Ghosh</u>	_____	_____

This assignment should preferably be signed by the inventor(s) before (a) at least two witnesses who also sign here, or (b) a Notary Public if within the U.S.A.:


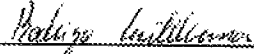
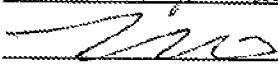
Witness Name (First Middle LAST)	Signature	Date (YYYY-MM-DD)
<u>Richard J Thomas</u>	<u><i>Richard J Thomas</i></u>	<u>2019/03/05</u>
<u>Kurt M Erickson</u>	<u><i>Kurt M Erickson</i></u>	<u>2019-03-05</u>

invention(s), without further authorization from us, any and all benefits, including the rights of priority provided by any and all treaties, conventions, or agreements.

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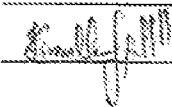

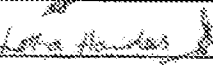
In witness whereof, each inventor/assignor please sign and date below:		
Inventor (First Middle LAST)	Signature	Date (YYYY-MM-DD)
<u>Timothy A. Thomas</u>	<u></u>	<u></u>
<u>Dennis Oqbe</u>	<u></u>	<u>2019-02-28</u>
<u>Kiran Venugopal</u>	<u></u>	<u></u>
<u>Amitabha Ghosh</u>	<u></u>	<u></u>
This assignment should preferably be signed by the inventor(s) before (a) at least two witnesses who also sign here, or (b) a Notary Public if within the U.S.A.:		
Witness Name (First Middle LAST)	Signature	Date (YYYY-MM-DD)
<u>Miguel Rodrigo Castellanos Urcua</u>	<u></u>	<u>2019-02-28</u>
<u>Jing Guo</u>	<u></u>	<u>2019-02-28</u>

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In witness whereof, each inventor/assignor please sign and date below:		
Inventor (First Middle LAST)	Signature	Date (YYYY-MM-DD)
<u>Timothy A. Thomas</u>	_____	_____
<u>Dennis Ogbe</u>	_____	_____
<u>Kiran Venugopal</u>		<u>2019-03-06</u>
<u>Amitabha Ghosh</u>	_____	_____
This assignment should preferably be signed by the inventor(s) before (a) at least two witnesses who also sign here, or (b) a Notary Public if within the U.S.A.:		
Witness Name (First Middle LAST)	Signature	Date (YYYY-MM-DD)
<u>GITA PURNAN NAR</u>		<u>2019-03-06</u>
<u>LATHA NARIDAS</u>		<u>2019-03-06</u>

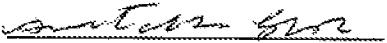
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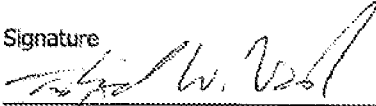
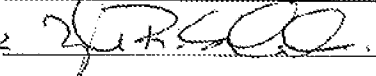
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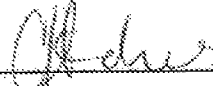
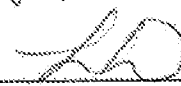
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<u>Timothy A. Thomas</u>	_____	_____
<u>Dennis Ogbe</u>	_____	_____
<u>Kiran Venugopal</u>	_____	_____
<u>Amitabha Ghosh</u>		<u>2019-02-28</u>

This assignment should preferably be signed by the inventor(s) before (a) at least two witnesses who also sign here, or (b) a Notary Public if within the U.S.A.:

Witness Name (First Middle LAST)	Signature	Date (YYYY-MM-DD)
<u>Frederick W. Volk</u>		<u>2019/02/28</u>
<u>JOSEPH RAPHAEL SCHUMACHER</u>		<u>2019/02/28</u>

The ASSIGNEE accepts this assignment:

Name <u>Claire Andrews</u>	Signature 
Title <u>Head of Technology Area, Patenting</u>	Date (YYYY-MM-DD) <u>MAR 28 2019</u>
Name <u>Louis Diep</u>	Signature 
Title <u>Director, Filing & Prosecution Admin.</u>	Date (YYYY-MM-DD) <u>APR 01 2019</u>