505769883 11/12/2019

PATENT ASSIGNMENT COVER SHEET

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EPAS ID: PAT5816699

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
LARS JONSSON	02/01/2018
CHRISTOS KOLITSIDAS	02/05/2018

RECEIVING PARTY DATA

Name:	CHALMERS TEKNISKA HOGSKOLA AB
Street Address:	ORG. NR. 556479-5598
Internal Address:	DEPARTMENT OF SIGNALS AND SYSTEMS
City:	GOTEBORG
State/Country:	SWEDEN
Postal Code:	SE-412 96

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16612765

CORRESPONDENCE DATA

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ATTORNEY DOCKET NUMBER:	4906P71566US1	
NAME OF SUBMITTER:	WILLIAM W. KIDD	
SIGNATURE:	/William W. Kidd; Reg. No. 31,772/	
DATE SIGNED:	11/12/2019	

Total Attachments: 5

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PATENT REEL: 050987 FRAME: 0618 505769883

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PATENT REEL: 050987 FRAME: 0619

This Assignment is made by:

JONSSON, Lars

Bräckegatan 3 162 61 Vällingby

Sweden

KOLITSIDAS, Christos

Amanuensvägen 3, Lgh 1312, 4th floor 114 16 Stockholm

Sweden

(hereinafter referred to as "Assignor(s)") in favor, and for the benefit and behoof of, Chalmers tekniska högskola AB, Department of Signals and Systems, org. nr. 556479-5598, SE-412 96 Göteborg, Sweden, a corporation duly organized under the laws of Sweden and having its principal place of business at Göteborg, Sweden (hereinafter referred to as "Chalmers").

WHEREAS Within Chase Centre, Christos Kolitsidas and Lars Jonsson (2 employees of KTH (from the division of EKT at KTH, that in the collaboration frame of CHASE are considered to constitute part of Chalmers)), and Stefan Engström (employee of Ericsson) have made a patentable invention (the "Invention") which has been documented in an invention disclosure titled: "Strongly Coupled Asymmetric Dipole Array", (the "Invention Disclosure") being allotted Ericsson patent case reference P71566 in Ericsson internal patent docketing system.

The sole inventors of the Invention are the KTH employees Christos Kolitsidas and Lars Jonsson (for the purposes of this agreement only, hereinafter both called the "Chalmers Inventors"), and Stefan Engström (the Ericsson inventor).

The Invention has been determined as interesting technology for Ericsson and may be of use for Ericsson.

For good, sufficient and adequate consideration, the receipt of which is hereby acknowledged, the Assignor(s) have, as of the Effective Date, sold, assigned, transferred, and set over, and by these presents, and to the extent any transferable or assignable rights still remain with the inventor, do hereby sell, assign, transfer, and set over, unto Chalmers, its successors, legal representatives, and assigns the entire right, title, and interest in and to the following invention as generated and ruled between the parties in the agreement "Avtal för Chase, Chalmers Antenna Systems VINN Excellence Centre, Etapp 4, 2015-01-01 till 2016-12-31, application(s) for Letters Patent, and any and all Letters Patent or Patents in all countries and pursuant to all multilateral treaty organizations, including Sweden, the United States of America, the Patent Cooperation Treaty and European Patent Convention, that may be granted therefor and thereon, and in and to any and all divisions, continuations, continuations-in-part, conversions and utility models of said application(s), and reissues and extensions of said Letters Patent or Patents, the same to be held and enjoyed by the Assignee, for its use and behoof and the use and the behoof of its successors, legal representatives, and assigns, to the full end of the term or Page 1 of 5

terms for which Letters Patent, Patents and Utility Models may be granted as fully and entirely as the same would have been held and enjoyed by the Assignor(s) had this sale and assignment not been made: including, but not limited to, the application(s) for Letters Patent and Utility Model filed in:

Country Code	Priority Application(s)	Filing Date(s)
WO	PCT/SE2017/050482	2017-05-12
US	16/612,765	2019-11-12

The Parties agree that the transactions under this Agreement were effected on the Effective Date. The Effective date is March 24th, 2017.

Assignor(s) hereby authorize and request Assignee's Attorneys to insert the serial number and filing date of said application(s) for Letter Patent or Utility Model, when known. The assignment of the above mentioned rights includes a transfer of the whole right to use a priority (including priority according to any convention, multilateral agreement, bilateral agreement and national law) of the above mentioned application(s) for Letter Patent and Utility Model in all countries and multilateral treaty organizations wherein no residual rights shall remain with the Assignor(s). Chalmers agree to reserve the right of use of the Invention for the parties within Chase Centre as further set out in the agreement "Avtal för Chase, Chalmers Antenna Systems VINN Excellence Centre, Etapp 4, 2015-01-01 till 2016-12-31 (appended). Assignor(s) hereby request that said Letters Patent, Patent or Utility Model be issued to Chaimers as Chalmers of said invention, the Letters Patent, Patent or Utility Model to be issued for the sole use and behoof of Chalmers, its successors, legal representatives, and assigns. Chalmers alone hereinafter has the entire disposal of the inventionand possesses entire ownership to any domestic and foreign patents or utility models granted thereinafter. The rights granted hereunder shall include all rights to institute legal actions, obtain remedies and recover and retain damages in respect to said Letters Patent, Patent or Utility Model.

The Assignor(s) and Chalmers hereby understand and agree that with the execution of this Assignment, to the extent necessary or appropriate, national and/or regional applications may be filed by Chalmers as the applicant and on behalf of the assignor.

To the extent Chalmers is entitled to receive the rights hereunder pursuant to this Assignment, each of the Assignor(s) hereby covenants and agrees to and with Chalmers, its successors, legal representatives, and assigns, that, at the time of the Effective Date, the Assignor(s) were the sole and lawful owners of the entire right, title, and interest in and to the inventions and application(s) for Letters Patent or Utility Models above-mentioned, and that the same are unencumbered, and that the Assignor(s) have good and full right and lawful authority to sell and convey the same in the manner herein set forth.

Further, and for the same consideration, the Assignor(s) hereby covenant(s) and agree(s) to and with Chalmers, its successors, legal representatives, and assigns that the Assignor(s) will, whenever counsel of Chalmers, or the counsel of its successors, legal representatives, and assigns, shall advise that any proceeding in connection with said inventions or any proceeding in connection with Letters Patent or Utility Model for said inventions, in any country and any multilateral treaty organization, including interference proceedings, is lawful and desirable, or that any division, continuation, continuation-in-part,

conversion or Utility Model of any application(s) for Letters Patent or Utility Model, or any reissue or extension of any Letters Patent to be obtained thereon, is lawful and desirable, sign all papers and documents, take all lawful oaths, and do all acts necessary or required to be done for the procurement, maintenance, enforcement, and defense of Letters Patent or Utility Model for said inventions, without charge to Chalmers, its successors, legal representatives, and assigns, but at the cost and expense of the Chalmers, its successors, legal representatives, and assigns. If any of the Assignor(s) is prevented by any obstacles from signing said documents in person, this Assignment shall be valid as a Power of Attorney for the Chalmers to sign these documents on behalf of any such Assignor(s) or, in the event of the death of the latter, the estate thereof.

This Assignment shall be governed by and construed under, and any dispute. controversy or claim related hereto shall be decided in accordance with, the laws of: Sweden

without regard to the conflicts of laws provisions thereof. Any dispute, controversy or claim arising under, out of or relating to this Assignment and any subsequent amendments of this Assignment, including, without limitation, its formation, validity, binding effect, interpretation, performance, breach or termination, as well as non-contractual claims, shall be referred to and finally determined by Swedish courts.

No modifications shall be made to this Assignment unless in writing and signed by each of the Assignor(s) and Chalmers. If any of the provisions of this Assignment shall be deemed invalid or unenforceable, then the entire Assignment shall be construed as if not containing the particular invalid or unenforceable provision or provisions, and the rights and obligations of Chalmers and Assignor(s) shall be construed and enforced accordingly. Chalmers's failure to exercise any option made available as a result hereof, shall not be construed as a waiver of such provisions, rights, or options, or affect the validity of this Assignment. Assignor covenants and agrees that it will not take any actions in violation of this Assignment.

Subsequent assignment from any of the assignors to the Chalmers purporting to convey the subject matter specified herein for a particular country, patent office, or jurisdiction shall not invalidate any provision of this assignment and any such subsequent assignment shall act as a further confirmation of the assignment herein.

Date 2018-02-21 Signature on behalf of Chalmers

Andors Karlshow

Title: Strongly Coupled Asymmet	ric Dipole Array	
Date. 2018-03-01	Signature of Assignor	JONSSON, Lary
Date. 2018-02-701	Witnessed by	- A-
	Name:	- Ospov Andres
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		10044 Hodekolin
Date20180201	Witnessed by	
	Name:	- Ebrahis Sharite
	Address:	Tehnbrigg 31
		lactiy Stockhoh

Title: Strongly Coupled Asymmetric Dipole Array

Date. 2028 - 02 - 02	Signature of Assignor	KOLITSIDAS, Christos
Date. 2018-02-05	Witnessed by	<u> 2</u> 2 2
	Name:	Oskar Dahlberg
	Address:	Mäldgaton 2
		Mäldgater 2 12741 Järfælla
		Sweden
Date 2018-02-05	Witnessed by	Deux Puer
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	Address:	Lustgårbsgatan
		16, 11251
		STOCKHOLTI