506468061 01/26/2021

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	EXECUTIVE ORDER 9424, CONFIRMATORY LICENSE

CONVEYING PARTY DATA

Name	Execution Date
UNIVERSITY OF NOTRE DAME	10/28/2020

RECEIVING PARTY DATA

Name:	NATIONAL SCIENCE FOUNDATION	
Street Address:	2415 EISENHOWER AVENUE	
Internal Address:	ROOM W 18000	
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State/Country:	VIRGINIA	
Postal Code:	22314	

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16988103

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> **PATENT REEL: 055107 FRAME: 0593**

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License to the United States Government

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Invention Title: Ultra-Low-Power Millimeter-Wave to Baseband Receiver Module

for Scalable Massive Mimo

Inventors: Bertrand M Hochwald, Nicholas Estes, Ralf Bendlin, Jonathan

Chisum

U.S. Filing/Issue Date: 8/7/2020

Patent or Application Serial No.: 16/988, 103

Grant/Contract Number(s): NSF ECCS1731056

Foreign Applications filed/intended in (countries): N/A

The invention identified above is a Subject Invention under **35 U.S.C. 200, et seq.**, and the Standard Patent Rights clause at **37 CFR 401.14, FAR 52.227-11 or FAR 52.227-12** (if applicable) which are included among the terms of the above identified grant or contract award from the United States Government. This document is confirmatory of:

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Signed this day, 10/28/2020.

By: Richard Cox

Title: Director, Licensing & Business Development

and Associate Executive Director

For: University of Notre Dame

At: 1400 East Angela Blvd. · South Bend, IN 46617

Signature

Richard Carp

ND Tech ID: 20-042

PATENT REEL: 055107 FRAME: 0594

RECORDED: 01/26/2021