

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
CONVEYING PARTY DATA	
Name	Execution Date
SANGHOON SUNG	12/29/2021
RECEIVING PARTY DATA	
Name:	T-MOBILE INNOVATIONS LLC
Street Address:	6360 SPRINT PARKWAY
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State/Country:	KANSAS
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PROPERTY NUMBERS Total: 1	
Property Type	Number
Application Number:	17992453
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NAME OF SUBMITTER:	TRACI M. BURKE
SIGNATURE:	/TRACI M. BURKE/
DATE SIGNED:	09/25/2023
Total Attachments: 2	
source=2022-10-05 US - Fully Executed Assignment (from parent)#page1.tif	
source=2022-10-05 US - Fully Executed Assignment (from parent)#page2.tif	

**ASSIGNMENT AND AGREEMENT IN AN APPLICATION FOR
LETTERS PATENT OF THE UNITED STATES OF AMERICA**

INVENTOR(S): Sanghoon Sung

I hereby declare that I am an original, first and joint inventor of the invention relating to
**PRIORITY-BASED MU-MIMO PAIRING THRESHOLD FOR CODEBOOK
BEAMFORMING IN 5G NR MASSIVE MIMO SYSTEMS**

described in an application for Letters Patent of the United States of America, executed by me on even date with my execution of this Assignment.

For valuable consideration received, I hereby sell, assign and transfer to T-MOBILE INNOVATIONS LLC, a limited liability company duly organized and existing under the laws of the State of Delaware, United States of America, its successors and assigns, my entire right, title and interest, for all countries in and to said inventions and all the rights and privileges under any and all Letters Patent that may be granted therefore, and any divisions, continuations, reissues and extensions thereof.

I agree that, when requested, I will, without charge to said limited liability company but at its expense, sign all papers, take all rightful oaths, make all rightful declarations and do all acts which may be necessary, desirable or convenient for securing and maintaining patents or other forms of protection for said inventions in any and all countries and for vesting title thereto in said limited liability company, its successors, assigns or nominees.

I agree that I will communicate to said limited liability company or its representatives any facts known to me respecting said inventions and when requested by said limited liability company and at its expense will testify in any legal proceedings, and generally do everything possible to aid said limited liability company, its successors, assigns and legal representatives or nominees, to obtain or enforce proper protection for said inventions in any and all countries.

I authorize and empower said limited liability company, its successors, assigns or nominees, to make application for patent or other form of protection for said inventions in its or their own name, or in my/our name, in any and all countries to invoke and claim for any application for patent or other form of protection for said inventions filed by it or them, the benefit of the right of priority provided by the International Convention for the Protection of Industrial Property, as amended, or by any convention which may henceforth be substituted for it, and to invoke and claim such right of priority without further written or oral authorization from me.

I hereby consent that a copy of this Assignment shall be deemed a full legal and formal equivalent of any assignment, consent to file or like document which may be required in any country for any purpose and more particularly in proof of the right of the said limited liability company or its successors, assigns or nominees to apply for patent or other proper protection for

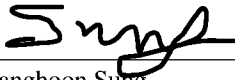
said inventions, and to claim the aforesaid benefits of the right of priority provided by the International Convention for the Protection of Industrial Property, as amended, or by any convention which may henceforth be substituted for it.

I covenant with T-MOBILE INNOVATIONS LLC, its successors, assigns, legal representatives, and nominees, that to the best of my knowledge the right, title and interest herein conveyed by me are free and clear of any encumbrance, and that I have the full right to convey the same as herein expressed.

This Agreement and Assignment supersedes all other assignments, agreements and addenda related to the above identified application.

Please direct any questions regarding this Assignment to:

Attn: Customer No. 32423
Melissa A. Jobe
(913) 315-9262

Inventor's Signature:		12/29/2021
	Sanghoon Sung	Date
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