506929876 10/19/2021

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT6976713

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
RANRAN ZHANG	10/03/2021
GUANGYU SUN	10/03/2021
ZHIGANG WANG	10/03/2021
YAN LI	10/03/2021
QIXIN HUANG	10/03/2021
TONG ZHOU	10/03/2021
XIAOHUI YANG	10/03/2021

RECEIVING PARTY DATA

Name:	SAMSUNG ELECTRONICS CO., LTD.
Street Address:	129, SAMSUNG-RO, YEONGTONG-GU, GYEONGGI-DO
City:	SUWON-SI
State/Country:	KOREA, REPUBLIC OF
Postal Code:	16677

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	17486013

CORRESPONDENCE DATA

Fax Number: (202)293-7860

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.

Phone: 202-293-7060

Email: msmircich@sughrue.com, sughrue@sughrue.com

Correspondent Name: SUGHRUE MION, PLLC.

Address Line 1: 2000 PENNSYLVANIA AVENUE, N.W.

Address Line 2: 9TH FLOOR

Address Line 4: WASHINGTON, D.C. 20006

ATTORNEY DOCKET NUMBER:	Q268090	
NAME OF SUBMITTER:	MATTHEW TYLER SMIRCICH-TEAMS	
SIGNATURE:	/Matthew Tyler Smircich/	
DATE SIGNED:	10/19/2021	

506929876 PATENT REEL: 057858 FRAME: 0178

This document serves as an Oath/Declaration (37 CFR 1.63).

Total Attachments: 3

source = Q268090 As signment with Declaration as filed #page 1.t if

source = Q268090 Assignment with Declaration as filed #page 2.t if

source=Q268090AssignmentwithDeclarationasfiled#page3.tif

PATENT REEL: 057858 FRAME: 0179

Docket No.: Q268090 SEC Ref: WC2020040301US0 Only After Sept 16, 2012

ASSIGNMENT WITH DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION (37 CFR L63)

Whereas, We, the undersigned inventors hereinafter called assignors, have invented certain improvements described in the application identified below; and

Whereas, SAMSUNG ELECTRONICS CO., LTD. of 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Republic of Korea, (assignee), desires to acquire the entire right, title, and interest in the application and invention, and to any United States patents to be obtained therefor;

Now therefore, for valuable consideration, receipt whereof is hereby acknowledged,

We, the above named assignors, hereby sell, assign and transfer to the above named assignee, its successors and assigns, the entire right, title and interest in the application and the invention disclosed therein for the United States of America and all other countries, including all divisions, and continuations thereof, and all Letters Patent of the United States that may be granted thereon, and all reissues thereof, and including rights of priority under the International Convention of Paris (1883) as amended, the laws of all foreign countries, and the laws of the United States including the right to claim priority under 35 USC 119 and the right to sue for past damages, and we request the Director of the U.S. Patent and Trademark Office to issue any Letters Patent granted upon the invention set forth in the application to the assignee, its successors and assigns; and we hereby agree that the assignee may apply for foreign Letters Patent on the invention and we will execute without further consideration all papers deemed necessary by the assignee in connection with the United States and foreign applications when called upon to do so by the assignee.

(Legalization not required for recording but is prima facie evidence of execution under 35 USC 261)

	gecare mar.		
This assignment with declaration is	☐ The attached application, or		
directed to:			7/486 013 filed on
	September 27, 2021.		
The application is entitled:			

METHOD AND DEVICE FOR SWITCHING TRANSMISSION METHODS IN MASSIVE MIMO SYSTEM

The above identified application was made or was authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I have reviewed and understand the contents of the application for which this assignment with declaration is being submitted.

I am aware of the duty to disclose to the Office all information known to me to be material to patentability as defined in 37 CFR 1.36.

I hereby acknowledge that any willful false statement made in this assignment with declaration is punishable under 18 USC 1001 by fine or imprisonment of not more than five (5) years, or both.

PATENT REEL: 057858 FRAME: 0180

NAME OF SOLE OR FIRST INVEN	TOR:		
Given Name (first and middle [if any])	Renran	Family Name or Surnam	e ZHANG
Inventor's signature	Ranvan Zhang	<u>l</u> i	Date 2021.10.3
Residence: Beijing China	Palace Building, Tai Yang Goni	Middle Road, No.12A, Cl	haoyang District, Beljing, 100000,
Mailing Address: China			
NAME OF SECOND INVENTOR:			
Given Name (first and middle [if any])	Guangyu	Family Name or Surnan	ne SUN
Inventor's signature	Guandyu Sun		Date 2024 - (0 . 3
Residence: Beijing, China		Second No. 27 Apr. 27 Apr.	baccana Dietriet Reijing 100000
Mailing Address: China	Palace Building, Tai Yang Gon	g mhigie kosg, no.12A, c	haoyang District, Beijing, 100000,
NAME OF THIRD INVENTOR:			
Given Name (first and middle [if any])	Zhigang	Family Name or Surnar	ne WANG
Inventor's signature 2/14	og Wang		Date 202 10 3
Residence: Beijing, China			This Dalling 190980
Mailing Address: China	Palace Building, Tai Yang Gon	g Middle Kosd, No.12A, C	Staoyang District, Beijing, 100000,
NAME OF FOURTH INVENTOR:		1	
Given Name (first and middle [if any])	Yau	Family Name or Surnam	e U
Inventor's signature Yan	<i>L</i> i	Ţ	Date 2021 10-3.
Residence: Beijing, China			
18F, Beijing Sun Mailing Address: China	Palace Building, Tai Yang Gor	ng Middle Road, No.12A, (Chaoyang District, Beijing, 100000,
NAME OF FIFTH INVENTOR:			
Given Name (first and middle [if any])	Qixin	Family Name or Surnam	ie HUANG
	in Unang	l	Date 7-21,[0]
Residence: Beiling China			
18F, Beijing Sun Mailing Address: China	Palace Building, Tai Yang Go	ng Middle Road, No.12A,	Chaoyang District, Beijing, 100000,

PATENT REEL: 057858 FRAME: 0181

NAME OF SIXTH INVENTOR:		
Given Name (first and middle (if any)) Yun	Family Name or Surname L1	
Inventor's signature Yan Li	Date 2021 - 10 - 3	
Residence: Beijing, China		
18F, Beijing Sun Palace Building, Tai Yang C Mailing Address: China	Song Middle Road, No.12A, Chaoyang District, Beijing, 100000,	
NAME OF SEVENTH INVENTOR:		
Given Name (first and middle [if any]) Tong	Family Name or Surname ZHOU	
Inventor's signature True Z Love	Date 2321. [8. 3	
Residence: Beijing, China		
18F, Beijing Son Palace Building, Tai Yang Gong Middle Road, No.12A, Chaoyang District, Beijing, 100000, Mailing Address: China		
NAME OF EIGHTH INVENTOR:		
Given Name (first and middle [if any]) Xiaohui	Family Name or Surname YANG	
Inventor's signature Xxao Mil Yang	Date 10/3/101	
Residence: Beijing, China		
	Gong Middle Road, No.12A, Chaoyang District, Beijing, 100000,	

PATENT REEL: 057858 FRAME: 0182

RECORDED: 10/19/2021