

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT	
NATURE OF CONVEYANCE:	ASSIGNMENT	
CONVEYING PARTY DATA		
	Name	Execution Date
	WEIMING LI	12/07/2021
	JIYEON KIM	12/06/2021
	HYUN SUNG CHANG	12/06/2021
	QIANG WANG	12/07/2021
	SUNGHOON HONG	12/10/2021
	YANG LIU	12/07/2021
	HAO WANG	12/07/2021
	YUEYING KAO	12/07/2021
RECEIVING PARTY DATA		
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City:	SUWON-SI	
State/Country:	KOREA, REPUBLIC OF	
Postal Code:	16677	
PROPERTY NUMBERS Total: 1		
	Property Type	Number
	Application Number:	17545333
CORRESPONDENCE DATA		
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<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>		
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ATTORNEY DOCKET NUMBER:	012052.2153	
NAME OF SUBMITTER:	THOMAS J. MATIKAINEN	
SIGNATURE:	/Thomas J. Matikainen/	

DATE SIGNED:	01/10/2022
Total Attachments: 6 source=NTFMP20211220_0120522153_ExecutedCDAEPAS#page1.tif source=NTFMP20211220_0120522153_ExecutedCDAEPAS#page2.tif source=NTFMP20211220_0120522153_ExecutedCDAEPAS#page3.tif source=NTFMP20211220_0120522153_ExecutedCDAEPAS#page4.tif source=NTFMP20211220_0120522153_ExecutedCDAEPAS#page5.tif source=NTFMP20211220_0120522153_ExecutedCDAEPAS#page6.tif	

As a below-named inventor, I hereby declare that this declaration is directed to the application attached hereto,
or to United States Application Number or PCT International Application Number

filed on _____ (if applicable), entitled:

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

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

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

I have reviewed and understand the contents of the above-identified application, including the claims.

I am aware of the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information that became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

For valuable consideration, I, as a below-named assignor, hereby assign to:

Samsung Electronics Co., Ltd.
129, Samsung-ro, Yeongtong-gu, Suwon-si
Gyeonggi-do 16677
Republic of Korea

and its successors and assigns (collectively hereinafter called "the Assignee"), the entire right, title, and interest throughout the world in the inventions and improvements that are the subject of the application identified in the above declaration, which is United States Application Number or PCT International Application Number 17/545.333 filed on December 8, 2021.

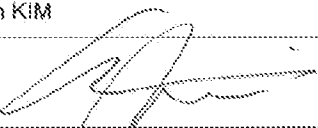
I authorize and request the attorneys appointed in the above-identified application to hereafter complete this Assignment by inserting above the application number and the filing date of the above-identified application when known, and to correct any typographical errors that may be discovered in this Assignment.

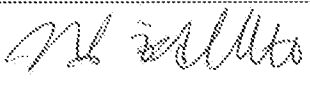
This Assignment includes the above-identified application, any and all United States and foreign patents, utility models, and design registrations granted for any of the inventions and improvements that are the subject of the above-identified application, and the right to claim priority based on the filing date of the above-identified application under the International Convention for the Protection of Industrial Property, the Patent Cooperation Treaty, the European Patent Convention, and all other treaties of like purposes; and I authorize the Assignee to apply in all countries in my name or in its own name for patents, utility models, design registrations, like rights of exclusion, and inventors' certificates for any of the inventions and improvements that are the subject of the above-identified application; and I agree for myself and my heirs, legal representatives, and assigns without further compensation to perform such lawful acts and to sign such further applications, Assignments, preliminary statements, and other lawful documents as the Assignee may reasonably request to effectuate fully this Assignment.

COMBINED DECLARATION AND ASSIGNMENT UNDER 37 CFR 1.63(e)

In witness whereof, I, as a below-named inventor and assignor, intending to be legally bound, have hereunto affixed my signature on the date indicated below next to my signature.

Inventor's Legal Name	Weiming Li		
Inventor's Signature		Date	
Residence (City, Country)	Beijing, P.R. China		
Mailing Address	18/F Sun Palace Building, No.12A, TaiYangGong Middle Road, Chaoyang District, Beijing, 100028 P.R. China		

Inventor's Legal Name	Jiyeon KIM		
Inventor's Signature		Date	2021. 12. 6
Residence (City, Country)	Hwaseong-si, Republic of Korea		
Mailing Address	Samsung Advanced Institute of Technology, 130 Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16678, Republic of Korea		

Inventor's Legal Name	Hyun Sung CHANG		
Inventor's Signature		Date	2021. 12. 6
Residence (City, Country)	Seoul, Republic of Korea		
Mailing Address	Samsung Advanced Institute of Technology, 130 Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16678, Republic of Korea		

Inventor's Legal Name	Qiang WANG		
Inventor's Signature		Date	
Residence (City, Country)	Beijing, P.R. China		
Mailing Address	18/F Sun Palace Building, No.12A, TaiYangGong Middle Road, Chaoyang District, Beijing, 100028 P.R. China		

Inventor's Legal Name	Sunghoon HONG		
Inventor's Signature		Date	
Residence (City, Country)	Hwaseong-si, Republic of Korea		
Mailing Address	Samsung Advanced Institute of Technology, 130 Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16678, Republic of Korea		

COMBINED DECLARATION AND ASSIGNMENT UNDER 37 CFR 1.63(e)

Inventor's Legal Name	Yang LIU		
Inventor's Signature		Date	
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Inventor's Legal Name	Hao WANG		
Inventor's Signature		Date	
Residence (City, Country)	Beijing, P.R. China		
Mailing Address	18/F Sun Palace Building, No.12A, TaiYangGong Middle Road, Chaoyang District, Beijing, 100028 P.R. China		

Inventor's Legal Name	Yueying KAO		
Inventor's Signature		Date	
Residence (City, Country)	Beijing, P.R. China		
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COMBINED DECLARATION AND ASSIGNMENT UNDER 37 CFR 1.63(e)

In witness whereof, I, as a below-named inventor and assignor, intending to be legally bound, have hereunto affixed my signature on the date indicated below next to my signature.

Inventor's Legal Name	Weiming Li		
Inventor's Signature	<i>Weiming Li</i>	Date	2021/12/07
Residence (City, Country)	Beijing, P.R. China		
Mailing Address	18/F Sun Palace Building, No.12A, TaiYangGong Middle Road, Chaoyang District, Beijing, 100028 P.R. China		

Inventor's Legal Name	Jiyeon KIM		
Inventor's Signature		Date	
Residence (City, Country)	Hwaseong-si, Republic of Korea		
Mailing Address	Samsung Advanced Institute of Technology, 130 Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16678, Republic of Korea		

Inventor's Legal Name	Hyun Sung CHANG		
Inventor's Signature		Date	
Residence (City, Country)	Seoul, Republic of Korea		
Mailing Address	Samsung Advanced Institute of Technology, 130 Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16678, Republic of Korea		

Inventor's Legal Name	Qiang WANG		
Inventor's Signature	<i>Qiang Wang</i>	Date	2021/12/07
Residence (City, Country)	Beijing, P.R. China		
Mailing Address	18/F Sun Palace Building, No.12A, TaiYangGong Middle Road, Chaoyang District, Beijing, 100028 P.R. China		

Inventor's Legal Name	Sunghoon HONG		
Inventor's Signature		Date	
Residence (City, Country)	Hwaseong-si, Republic of Korea		
Mailing Address	Samsung Advanced Institute of Technology, 130 Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16678, Republic of Korea		

COMBINED DECLARATION AND ASSIGNMENT UNDER 37 CFR 1.63(e)

Inventor's Legal Name	Yang LIU		
Inventor's Signature	<i>Yang Liu</i>	Date	2021/12/07
Residence (City, Country)	Beijing, P.R. China		
Mailing Address	18/F Sun Palace Building, No.12A, TaiYangGong Middle Road, Chaoyang District, Beijing, 100028 P.R. China		

Inventor's Legal Name	Hao WANG		
Inventor's Signature	<i>Hao Wang</i>	Date	2021/12/07
Residence (City, Country)	Beijing, P.R. China		
Mailing Address	18/F Sun Palace Building, No.12A, TaiYangGong Middle Road, Chaoyang District, Beijing, 100028 P.R. China		

Inventor's Legal Name	Yueying KAO		
Inventor's Signature	<i>Yueying Kao</i>	Date	2021/12/07
Residence (City, Country)	Beijing, P.R. China		
Mailing Address	18/F Sun Palace Building, No.12A, TaiYangGong Middle Road, Chaoyang District, Beijing, 100028 P.R. China		

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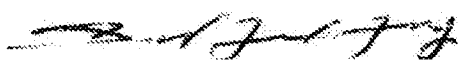
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