

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT5931151

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
JIN-YOUNG LEE	01/20/2020
YIN-JI PIAO	01/20/2020
WOONG0IL CHOI	01/20/2020
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<b>Name:</b>	SAMSUNG ELECTRONICS CO., LTD.
<b>Street Address:</b>	129, SAMSUNG-RO, YEONGTONG-GU, GYEONGGI-DO
<b>City:</b>	SUWON-SI
<b>State/Country:</b>	KOREA, REPUBLIC OF
<b>Postal Code:</b>	16677
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	16634400
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(202)293-7860
<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>	
<b>Phone:</b>	202-293-7060
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<b>Correspondent Name:</b>	SUGHRUE MION, PLLC
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<b>ATTORNEY DOCKET NUMBER:</b>	Q242305
<b>NAME OF SUBMITTER:</b>	TODD YARBOROUGH, TEAMS DEPT
<b>SIGNATURE:</b>	/Todd Yarborough/
<b>DATE SIGNED:</b>	01/27/2020
This document serves as an Oath/Declaration (37 CFR 1.63).	
<b>Total Attachments: 4</b>	
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**ASSIGNMENT WITH DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION (37 CFR 1.63)**

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)

As the below named inventor, I hereby declare that:

This assignment with declaration is ☐ The attached application, or directed to:  
☒ United States Application or PCT International Application Number PCT/KR2018/003801 filed on March 30, 2018.

The application is entitled:

**APPARATUS AND METHOD FOR ENCODING MOTION VECTOR BY USING BASIC MOTION VECTOR, AND DECODING APPARATUS AND METHOD**

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 1.56.

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.

<b>NAME OF SOLE OR FIRST INVENTOR:</b>	
Given Name (first and middle [if any])	Jin-young
Family Name or Surname	LEE
Inventor's signature	<i>Jin Young Lee</i>
Date	20 Jan. 2020.
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Mailing Address: 101-902, 111, Yeongtong-ro 200beon-gil, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16693, Republic of Korea	
<b>NAME OF SECOND INVENTOR:</b>	
Given Name (first and middle [if any])	Yin-ji
Family Name or Surname	PIAO
Inventor's signature	
Date	
Residence: Yongin-si, Republic of Korea	
Mailing Address: 102-1901, 35, Yeongtong-ro 525beon-gil, Giheung-gu, Yongin-si, Gyeonggi-do, 16956, Republic of Korea	
<b>NAME OF THIRD INVENTOR:</b>	
Given Name (first and middle [if any])	Woong-il
Family Name or Surname	CHOI
Inventor's signature	
Date	
Residence: Osan-si, Republic of Korea	
Mailing Address: 301, 80, Sucheong-ro, Osan-si, Gyeonggi-do, 18110, Republic of Korea	

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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.

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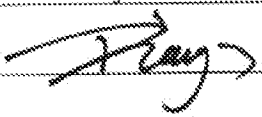
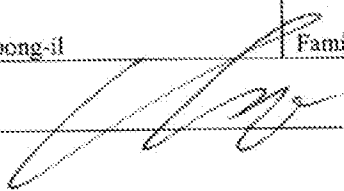
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<b>NAME OF SOLE OR FIRST INVENTOR:</b>	
Given Name (first and middle [if any])	Family Name or Surname
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Given Name (first and middle [if any])	Family Name or Surname
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<b>NAME OF THIRD INVENTOR:</b>	
Given Name (first and middle [if any])	Family Name or Surname
Woong-il	CHOI
Inventor's signature 	Date Jan. 20, 2020
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