# PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

### **CONVEYING PARTY DATA**

Name	Execution Date
KIL-JONG KIM	05/21/2019
SOON-GI HONG	05/16/2019
DO-YOUNG JOUNG	05/21/2019
CHANG-HYUN LEE	05/21/2019

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### **PROPERTY NUMBERS Total: 1**

Property Type	Number
Application Number:	16463450

## **CORRESPONDENCE DATA**

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NAME OF SUBMITTER:	TODD YARBOROUGH, TEAMS DEPT
SIGNATURE:	/Todd Yarborough/
DATE SIGNED:	05/23/2019
	This document serves as an Oath/Declaration (37 CFR 1.63).
	•

Total Attachments: 4

PATENT REEL: 049266 FRAME: 0139

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PATENT REEL: 049266 FRAME: 0140

Docket No.: O246986 SEC Ref: MD2016060041US0 Only After Sept 16, 2012

### 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, Sawon-si, Gyeonggi-do, 16677, Republic of Mores, (assignce), desires to acquire the entire right, title, and interest in the application and invention, and to any United States materits 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 assignce, 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 3S USC 261)
As the below named inventor, I hereby declare that:
This assignment with declaration is   [] The attached application, or

The application is entitled:

directed to:

# METHOD AND APPARATUS FOR ALLOCATING DIFFERENTIAL BANDWIDTH FOR EACH SCREEN REGION BY USING IMAGE COMPLEXITY INFORMATION

United States Application or PCT International Application Number PCT/KR2017/01(8656

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.

filed on September 27, 2017.

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 1901 by fine or imprisonment of not more than five (5) years, or both.

[Page 1]

PATENT REEL: 049266 FRAME: 0141

NAME OF SOLE OR FIRST INVENTOR:	
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Inventor's signature / 5	Date 20/9 05 25
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Inventor's signature	Date
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Mailing Address: 105-803, 96, Sadang-ro 16-gil, Dongjak-gu, Seoul	i, Republic of Korea
NAME OF THIRD INVENTOR:	
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Inventor's signature 경도명	Date 10 (4.05.2.1
Residence: Seoul, Republic of Korea	
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NAME OF FOURTH INVENTOR:	
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Inventor's Chaylym Cee	Date 2019, 05.21
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REEL: 049266 FRAME: 0142

Docket No.: Q246986 SEC Ref: MD2016060041US0 Only After Sept 16, 2012

# 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, <u>SAMSUNG ELECTRONICS CO., LTD. of 129, Samsung-ro, Veongtong-gu, Suwon-si, Gyeonggi-do, 16677, Republic of Korea</u>, (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 record	ing b	ut is prima facie evidence of execution under 35 USC 261)
As the below named inventor, I here	by de	clare that:
This assignment with declaration is directed to:		The attached application, or
uneciou io.	Ø	United States Application or PCT International Application Number <u>PCT/KR2017/010656</u> filed on September 27, 2017.
The application is entitled:		

# METHOD AND APPARATUS FOR ALLOCATING DIFFERENTIAL BANDWIDTH FOR EACH SCREEN REGION BY USING IMAGE COMPLEXITY INFORMATION

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.

PATENT REEL: 049266 FRAME: 0143

NAME OF SOLE OR FIRST INVENTOR:	
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Inventor's signature 22	Date 2019, 05.16
Residence: Seoul, Republic of Korea	
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	, recurrence of acousti
NAME OF THIRD INVENTOR:	Trefinence M. Crones
	Family Name or Surname JOUNG
NAME OF THIRD INVENTOR: Given Name	
NAME OF THIRD INVENTOR:  Given Name (first and middle [if any]) Do-young	Family Name or Surname JOUNG
NAME OF THIRD INVENTOR:  Given Name (first and middle [if any]) Do-young  Inventor's signature	Family Name or Surname JOUNG  Date
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NAME OF THIRD INVENTOR:  Given Name (first and middle [if any]) Do-young  Inventor's signature  Residence: Seoul, Republic of Korea  Mailing Address: 913-1002, 251, Sangam-ro, Gangdong-gu, Seoul, F NAME OF FOURTH INVENTOR: Given Name	Family Name or Surname JOUNG  Date
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PATENT REEL: 049266 FRAME: 0144

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