504701966 12/22/2017

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4748688

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
SU YUL SEO	12/21/2017
YU JIN CHOI	12/21/2017
YEON JU KANG	12/21/2017
KI HYUK KIM	12/22/2017
GYEONG NAM BANG	12/21/2017

RECEIVING PARTY DATA

Name:	SAMSUNG DISPLAY CO., LTD.
Street Address:	1, SAMSUNG-RO, GIHEUNG-GU
Internal Address:	GYEONGGI-DO
City:	YONGIN-SI
State/Country:	KOREA, REPUBLIC OF

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15852422

CORRESPONDENCE DATA

Fax Number: (703)288-5139

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: 7032885105

Email: PATENT@PARK-LAW.COM

Correspondent Name: H.C. PARK & ASSOCIATES, PLC

Address Line 1: 1894 PRESTON WHITE DRIVE

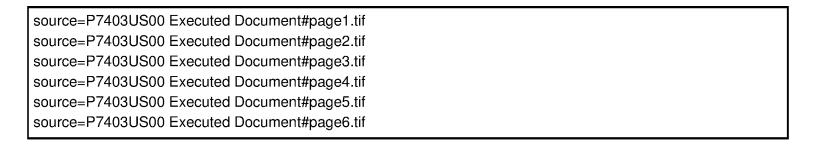
Address Line 4: RESTON, VIRGINIA 20191

ATTORNEY DOCKET NUMBER:	P7403US00
NAME OF SUBMITTER:	HAE-CHAN PARK
SIGNATURE:	/Hae-Chan Park/
DATE SIGNED:	12/22/2017
	This document serves as an Oath/Declaration (37 CFR 1.63).

Total Attachments: 6

PATENT REEL: 044471 FRAME: 0011

504701966



PATENT REEL: 044471 FRAME: 0012



ASSIGNMENT SERVING AS DECLARATION PER 37 C.F.R. § 1.63(e)

As a below named inventor and Assignor, I declare that:

This assignment and declaration are directed to:

 \Box

The attached application entitled TOUCH SENSOR AND DISPLAY DEVICE INCLUDING THE SAME having attorney docket number <u>P7403US00</u> ("Application"), which claims priority from:

Korean Patent Application No. <u>10-2016-0179510</u>, filed <u>December 26</u>, 2016.

As amended on ______ (if applicable);

The above-identified Application was made or 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 hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. § 1001 by fine or imprisonment of not more than five (5) years, or both.

Whereas, Assignor has invented certain new and useful processes, machines, articles of manufacture, compositions of matter, and/or improvements thereof ("Invention") disclosed in the Application,

Whereas, Assignor desires to convey all rights, titles, and interests in and to the same to:

Samsung Display Co., Ltd. 1, Samsung-ro, Giheung-gu Yongin-si Gyeonggi-do Republic of Korea

Samsung Display Co., Ltd. herein further referred to as ("Assignee").

Now, for valuable consideration by Assignee to Assignor, the receipt of which is hereby acknowledged, and for other good and valuable consideration, Assignee and Assignor hereby agree as follows:

Assignor hereby conveys, assigns, sells and transfers to Assignee all rights, title and interests in and to the Invention disclosed in said application and in and to any Letters Patent of the United States (US), any continuation, division, renewal, or substitute thereof, and hereby grant to Assignee the right to apply in its own name for patents or Inventor's certificates and related rights heretofore or hereafter filed for the Invention in any and all countries, including

Page 1 of 3 법무법인 세종_LO-201610-070-1-US0

> PATENT REEL: 044471 FRAME: 0013

Docket No. P7403US00

(without limitation) all rights to claim priority based thereon, all patents granted thereon and all reissues, extensions and renewals thereof.

Assignor hereby covenants that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this Assignment.

Assignor further covenants that Assignee will, upon Assignee's request, be provided promptly with all pertinent facts and documents relating to the Invention, Patent, Application and any patents granted thereon, as may be known and accessible to Assignor, and Assignor will testify as to the same in any interference, litigation or proceeding related thereto and will promptly execute and deliver to Assignee or Assignee's legal representative any and all papers, instruments or affidavits required to apply for, protect, obtain, maintain, issue, defend and enforce the Application, Patent, Invention, whether in the US or any and all foreign countries and any patents granted thereon and/or for obtaining any reissue or reissues of any patent which may be granted for the invention and perform such further acts which may be necessary or desirable to carry out the intent of this agreement as the Assignee thereof shall hereafter require and prepare at assignee's expense.

IN WITNESS WHEREOF, Inventor and Assignor has hereunto set hand and seal.

First Inventor's and Assignor's Name:	Su Yel SEO
Address:	1, Samsung-ro, Giheung-gu Yongin-si Gyeonggi-do Republic of Korea
First Inventor's and Assignor's Signature:	uta
Date:	2019.12.21
Second Inventor's and Assignor's Name:	Yu din CHOL
Address:	1, Samsung-ro, Giheung-gu Yongin-si Gyeonggi-do Republic of Korea
Second Inventor's and Assignor's Signature:	건속건
Date:	2010-12-2-1

Page 2 of 3 법무법인 세종_ LO-201610-070-1-US0



Third Inventor's and Assignor's Name:	Yeon Ju KANG
Address:	1, Samsung-ro, Giheung-gu Yongin-si Gyeonggi-do Republic of Korea
Third Inventor's and Assignor's Signature	<u> 497</u>
Date:	2011 - 12 - 2]
Fourth Inventor's and Assignor's Name: Address:	Ki Hyuk KIM 1, Samsung-ro, Giheung-gu Yongin-si Gyeonggi-do Republic of Korea
Fourth Inventor's and Assignor's Signature:	
Date:	
Fifth Inventor's and Assignor's Name Address:	Gyeong Nam BANG 1, Samsung-ro, Giheung-gu Yongin-si
Fifth Inventor's and Assignor's Signature:	Gyeonggl-do Republic of Korea りりない。
Data	V01/1-17-7-1

Page 3 of 3 법무법인세종_ LO-201610-070-1-US0 Doc code: Oath

Document Description: Oath or declaration filed

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SUBSTITUTE STATEMENT IN LIEU OF AN OATH OR DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION (35 U.S.C. 115(d) AND 37 CFR 1.64)

City Yongin-si, Gyeonggi-do State Mailing Address (except for a deceased or legally incapecitated inventor): 1, Samsung-ro, Giheung-gu, City Yongin-si, Gyeonggi-do State To believe the above-named inventor or joint inventor to be the original inventor or an original joint inventor of a claimed invention in the application. The above-identified application was made or authorized to be made by me.			Sandanian in the control of the cont
The attached application, OR United States application or PCT international application number		TOUCH SENSOR AND DISPLAY DEVICE I	NCLUDING THE SAME
United States application or PCT international application number	This stateme	nt is directed to:	
United States application or PCT international application number	The atta	sched application,	
LEGAL NAME of inventor to whom this substitute statement applies: (E.g., Given Name (first and middle (if any)) and Femily Name or Surname) KI Hyuk KIM Residence (except for a deceased or legally incapacitated inventor): City Yongin-si, Gyeonggi-do State Country Republic of Korea Country Republic of Korea Cally Yongin-si, Gyeonggi-do State Country Republic of Korea Cally Yongin-si, Gyeonggi-do State Country Republic of Korea Cally Yongin-si, Gyeonggi-do State 17113 Republic of Korea Cauntry Republic of Kor			
(E.g., Olven Name (first and middle (if anyl)) and Family Name or Surname) KI Hyuk KIM Residence (except for a deceased or legally incapacitated inventor): City Yongin-si, Gyeonggi-do State Country Republic of Korea Coun	United S	itates application or PCT international application number	filed on
Ki Hyuk KIM Residence (except for a deceased or legally incapacitated inventor): City Yongin-si, Gyeonggi-do State Country Republic of Korea Mailing Address (except for a deceased or legally incapacitated inventor): 1, Samsung-ro, Giheung-gu, City Yongin-si, Gyeonggi-do State Country Republic of Korea Country	LEGAL NAI	ME of inventor to whom this substitute statement	appiles:
Residence (except for a deceased or legally incapacitated inventor): Assignee Country Republic of Korea	(E.g., Given l	Name (first and middle (if any)) and Family Name or Surnar	ne)
City Yongin-si, Gyeonggi-do State Country Republic of Korea Mailing Address (except for a deceased or legally incapacitated inventor): 1, Samsung-ro, Giheung-gu. City Yongin-si, Gyeonggi-do State Zio 17113 Country Republic of Korea Country Country Republic of Korea Country Republic	***************************************	and APP States and the company of th	
Mailing Address (except for a deceased or legally incapacitated inventor): 1, Samsung-ro, Giheung-gu, City Yongin-si, Gyeonggi-do State State I believe the above-named inventor or joint inventor to be the original inventor or an original joint inventor of a claimed invention in the application. The above-identified application was made or authorized to be made by me. I hereby acknowledge that any willful false statement made in this statement is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both. Relationship to the inventor to whom this substitute statement applies: Legal Representative (for deceased or legally incapacitated inventor only), Assignee, Person to whom the inventor is under an obligation to assign, Person who otherwise shows a sufficient proprietary interest in the matter (petition under 37 CFR 1.48 is required), or	Residence (e	xcept for a deceased or legally incapacitated inventor):	
Mailing Address (except for a deceased or legally incapacitated inventor): 1, Samsung-ro, Giheung-gu, City Yongin-Sì, Gyeonggi-do State State 1 believe the above-named inventor or joint inventor to be the original inventor or an original joint inventor of a claimed invention in the application. The above-identified application was made or authorized to be made by me. I hereby acknowledge that any willful false statement made in this statement is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both. Relationship to the inventor to whom this substitute statement applies: Legal Representative (for deceased or legally incapacitated inventor only), Assignee, Person to whom the inventor is under an obligation to assign, Person who otherwise shows a sufficient proprietary interest in the matter (petition under 37 CFR 1.46 is required), or			Republic of Korea
I believe the above-named inventor or joint inventor to be the original inventor or an original joint inventor of a claimed invention in the application. The above-identified application was made or authorized to be made by me. I hereby acknowledge that any wiliful false statement made in this statement is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both. Relationship to the inventor to whom this substitute statement applies: Legal Representative (for deceased or legally incapacitated inventor only), Assignee, Person to whom the inventor is under an obligation to assign, Person who otherwise shows a sufficient proprietary interest in the matter (petition under 37 CFR 1.45 is required), or			
The above-identified application was made or authorized to be made by me. I hereby acknowledge that any willful false statement made in this statement is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both. Relationship to the inventor to whom this substitute statement applies: Legal Representative (for deceased or legally incapacitated inventor only), Assignee, Person to whom the inventor is under an obligation to assign, Person who otherwise shows a sufficient proprietary interest in the matter (petition under 37 CFR 1.46 is required), or	_{ay} Yong	jin-si, Gyeonggi-do _{state}	17113 Country Republic of Korea
hereby acknowledge that any willful false statement made in this statement is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both. Relationship to the inventor to whom this substitute statement applies: Legal Representative (for deceased or legally incapacitated inventor only), Assignee, Person to whom the inventor is under an obligation to assign, Person who otherwise shows a sufficient proprietary interest in the matter (petition under 37 CFR 1.46 is required), or	believe the a	above-named inventor or joint inventor to be the original inv lication.	entor or an original joint inventor of a claimed invention
Relationship to the inventor to whom this substitute statement applies: Legal Representative (for deceased or legally incapacitated inventor only), Assignee, Person to whom the inventor is under an obligation to assign, Person who otherwise shows a sufficient proprietary interest in the matter (petition under 37 CFR 1.46 is required), or	The above-ide	entified application was made or authorized to be made by	rne.
Legal Representative (for deceased or legally incapacitated inventor only), Assignee, Person to whom the inventor is under an obligation to assign, Person who otherwise shows a sufficient proprietary interest in the matter (petition under 37 CFR 1.46 is required), or	hereby ackn imprisonm	owledge that any willful false statement made in this statement of not more than five (5) years, or both.	ient is punishable under 18 U.S.C, 1001 by fine or
Assignee, Person to whom the inventor is under an obligation to assign, Person who otherwise shows a sufficient proprietary interest in the matter (petition under 37 CFR 1.46 is required), or	Relationship	to the inventor to whom this substitute statement applies:	
Assignee, Person to whom the inventor is under an obligation to assign, Person who otherwise shows a sufficient proprietary interest in the matter (petition under 37 CFR 1.46 is required), or	Leg	al Representative (for deceased or legally incapacitated inv	rentor only).
Person to whom the inventor is under an obligation to assign, Person who otherwise shows a sufficient proprietary interest in the matter (petition under 37 CFR 1.46 is required), or			and the state of t
Person who otherwise shows a sufficient proprietary interest in the matter (petition under 37 CFR 1.46 is required), or			
	Pers	son who otherwise shows a sufficient proprietary interest in	the matter (petition under 37 CFR 1.46 is required), or
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This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 1 minute to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the annual of time, your require in complete, this form and/or suggestions for reducing this burden, should be sent to the Chief information Officer U.S. Palent and Trademark Office, U.S. Department of Commerce. P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SENO FEES OR COMPLETED FORMS TO THIS ADDRESS, SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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## SUBSTITUTE STATEMENT

Circumstances permitting execution of this substitute statement:	
Inventor is deceased,	
Inventor is under legal incapacity,	
Inventor cannot be found or reached after diligent effort, or	
Inventor has refused to execute the path or declaration under 37 CFR 1.63.	
If there are joint inventors, please check the appropriate box below:	
An application data sheet under 37 CFR 1.76 (PTO/AIA/14 or equivalent) naming the enti- or is currently submitted.	re inventive entity has been
OR	
An application data sheet under 37 CFR 1.76 (PTO/AiA/14 or equivalent) has not been so Statement Supplemental Sheet (PTO/AiA/11 or equivalent) naming the entire inventive en information is attached. See 37 CFR 1.64(b).	ubmitted. Thus, a Substitute nitry and providing inventor
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If the applicant is a juristic entity, list the applicant name and the title of the signer:	
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Tille of Person Executing This Substitute Statement: Genral Manager	
The signer, whose title is supplied above, is authorized to act on behalf of the applicant. Residence of the signer (unless provided in an application data sheet, PTO/AIA/14 or equivale	37£8-
_{city} Yongin-si, Gyeonggi-do _{State} country Reput	olic of Korea
Mailing Address of the signer (unless provided in an application data sheet, PTO/AIA/14 or ec	(uivalent)
1, Samsung⊣o, Giheung-gu,	***************************************
City Yongin-si, Gyeonggi-do State 77113	Republic of Korea
Note: Use an additional PTO/AIA/02 form for each inventor who is deceased, legally incapacitated, c after diligent effort, or has refused to execute the oath or declaration under 37 CFR 1.63.	annot be found or reached
service makes and the remain of execute the cath of decigiation flugging the 21 CER 193	nana na manaka maka maka mana mana maka manaka ka maka ka manaka mana ka mana ka mana ka mana ka mana ka mana k

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## Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

- 1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
- A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
- A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
- A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
- A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the international Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
- A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
- 7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
- 8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
- A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

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PATENT REEL: 044471 FRAME: 0018