PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
YUHO WON	01/09/2020
YONG WOOK KIM	01/09/2020
EUN JOO JANG	01/09/2020
HYO SOOK JANG	01/09/2020

RECEIVING PARTY DATA

Name:	SAMSUNG ELECTRONICS CO., LTD.
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City:	SUWON-SI, GYEONGGI-DO
State/Country:	KOREA, REPUBLIC OF
Postal Code:	16677

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16739595

CORRESPONDENCE DATA

Fax Number:

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ATTORNEY DOCKET NUMBER:	PNK1943US		
NAME OF SUBMITTER:	JOSEPH BARRERA		
SIGNATURE:	/Joseph Barrera/		
DATE SIGNED:	01/13/2020		
	This document serves as an Oath/Declaration (37 CFR 1.63).		

Total Attachments: 2

PATENT REEL: 051568 FRAME: 0172

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> PATENT REEL: 051568 FRAME: 0173

DECLARATION AND ASSIGNMENT

Title of Invention: CORE SHELL QUANTUM DOT AND ELECTRONIC DEVICE INCLUDING THE SAME

As a below named inventor, I hereby declare that:

This declaration is directed to:

[X] the att	ached appli	cation (At	torney Docket	Number PNK	(1943US), or
[] United	States appl	ication or	PCT internati	onal applicatio	n number
	til	led on			

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, including the claims.

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

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 Section 1.56.

Whereas, each undersigned inventor has made certain inventions, improvements, and discoveries (herein referred to as the "INVENTION") disclosed in the above-identified patent application (herein referred to as the ("APPLICATION");

Whereas, <u>SAMSUNG ELECTRONICS CO., LTD.</u>, a corporation of the <u>Republic of Korea</u> having a place of business at <u>129</u>, <u>Samsung-ro</u>, <u>Yeongtong-go</u>, <u>Suwon-si</u>, <u>Gyeonggi-do</u>, <u>16677</u>, <u>Republic of Korea</u> (herein referred to as "ASSIGNEE"), desires to acquire, and each undersigned inventor desires to grant to ASSIGNEE, the entire worldwide right, title, and interest in and to the INVENTION and in and to any and all patent applications and patents directed thereto;

Now, therefore, for good and valuable consideration, the receipt and sufficiency thereof being hereby acknowledged, each undersigned inventor (herein referred to ASSIGNOR") hereby sells or has sold, assigns or has assigned, and otherwise transfers or has transferred to the ASSIGNEE, its successors, legal representatives, and assigns, the entire worldwide right, title, and interest in and to the INVENTION, the APPLICATION, and any and all other patent applications and patents for the INVENTION which may be applied for or granted therefor in the United States and in all foreign countries and jurisdictions, including all divisions, continuations, continuations-in-part, reissues, reexaminations, renewals, extensions, counterparts, substitutes, and extensions thereof, and all rights of priority resulting from the filing of such applications and granting of such patents. In addition, each undersigned inventor hereby authorizes and requests the Director of the United States Patent and Trademark Office to issue any United States Patent, and foreign patent authorities to issue any foreign patent, granted for the INVENTION, to ASSIGNEE, its successors, legal representatives, and assigns, the entire worldwide right, title, and interest in and to the same to be held and enjoyed by ASSIGNEE, its successors, legal representatives, and assigns to the full end of the terms for which any and all such patents may be granted, as fully and entirely as would have been held and enjoyed by the undersigned

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had this Assignment not been made; and each undersigned inventor agrees to execute any and all documents and instruments and perform all lawful acts reasonably related to recording this Assignment or perfecting title to the INVENTION, the APPLICATION, and all related patents and applications, in ASSIGNEE, its successors, legal representatives, and assigns, whenever requested by ASSIGNEE, its successors, legal representatives, and assigns.

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.

The undersigned hereby grant(s) the law firm of Cantor Colburn LLP the power to insert on this Declaration and Assignment any further identification which may be necessary or desirable in order to comply with the rules of the U.S. Patent and Trademark Office for recordation of this document.

ægal Name of Inventor:	Yuho WON		
Signature:	<u> 44</u>	Jan Date:	uary 9, 2020
egal Name of Inventor:	Yong Wook KIM		
Signature:		Date: Ja:	nuary 9, 2020
Legal Name of Inventor:	Eun Joo JANG		
Signature:	Jungenjoo	Date:	nuary 9, 2020
Legal Name of Inventor:	Hyo Sook JANG		
Signature: 5	Apro-A To-f	Date:	nuary 9, 2020