#### 505550276 06/28/2019

### PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2

EPAS ID: PAT5597077

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

#### **CONVEYING PARTY DATA**

Name	Execution Date
PENG XU	03/01/2018
KANGGUO CHENG	03/01/2018
XUEFENG LIU	03/01/2018
CHI-CHUN LIU	03/02/2018
YONGAN XU	03/01/2018

#### **RECEIVING PARTY DATA**

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State/Country:	NEW YORK
Postal Code:	10504

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

Property Type	Number
Application Number:	16456610

### **CORRESPONDENCE DATA**

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**Correspondent Name:** AMIN, TUROCY & WATSON, LLP - IBM

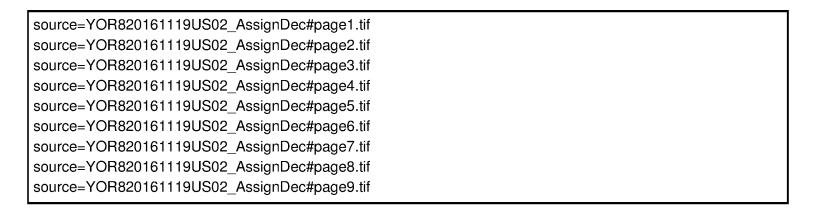
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ATTORNEY DOCKET NUMBER:	YOR820161119US02/IBMP340A
NAME OF SUBMITTER:	DEIDRA D. RITCHERSON
SIGNATURE:	/Deidra D. Ritcherson/
DATE SIGNED:	06/28/2019
Total Attachments: 0	•

Total Attachments: 9



### DECLARATION (37 C.F.R. § 1.63) FOR UTILITY PATENT APPLICATION USING AN APPLICATION DATA SHEET (37 C.F.R. § 1.76) AND ASSIGNMENT

Title of Invention: ELECTRONIC DEVICES HAVING SPIRAL CONDUCTIVE STRUCTURES

As a below named and undersigned inventor. I hereby declare that:

,,	
This declaration is directed to the attached application, or (if following box is checked):	
[ ] United States application or PCT international application number	filed on
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 application.	on in the
I have reviewed and understand the contents of the application, including the claims.	
I am aware of the duty to disclose to the United States Patent and Trademark Office all i known to me to be material to patentability as defined in 37 C.F.R. § 1.56.	nformation
Whereas, I ("ASSIGNOR") have made certain inventions, improvements, and discoverion to as the "Invention") disclosed in the above-identified patent application and further ide IBM Docket Number provided above in the header of this document;	,

Whereas, International Business Machines Corporation (herein referred to as the "ASSIGNEE"), a corporation of New York having a place of business at Armonk, New York, desires to acquire, and I desire to grant to the ASSIGNEE, my 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, I hereby sell or have sold, assign or have assigned, and otherwise transfer or have transferred to the ASSIGNEE, its successors, legal representatives, and assigns, my entire worldwide right, title, and interest in and to the Invention, the above-identified United States patent application, and any and all other patent applications and patents for the Invention which may be applied for or granted therefore in the United States and in all foreign countries and jurisdictions, including all divisions, continuations, 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, I hereby authorize and request 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 the ASSIGNEE, its successors, legal representatives, and assigns, my entire worldwide right, title, and interest in and to the same to be held and enjoyed by the 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 me had this Assignment not been made; and I agree 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 and all

related patents and applications, in the ASSIGNEE, its successors, legal representatives, and assigns, whenever requested by the ASSIGNEE, its successors, legal representatives, or assigns. I acknowledge my prior and ongoing obligations to sell, assign, and transfer my rights under this Assignment to the ASSIGNEE and am unaware of any reason why I may not have the full and unencumbered right to sell, assign, and transfer my rights hereby sold, assigned, and transferred, and have not executed, and will not execute, any document or instrument in conflict herewith. I also hereby grant the ASSIGNEE, its successors, legal representatives, and assigns, the right to insert in this Assignment any further identification (including, but not limited to, patent Application Number) which may be necessary or desirable for recordation of this Assignment. This Assignment is governed by the substantive laws of the State of New York, and any disputes will be resolved in a New York state court or federal court sited in New York.

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.

(1) Legal Name of Inventor: Peng Xu

Signature:   New York	Date:03/01/2018
(2) Legal Name of Inventor: <b>Kangguo Cheng</b>	
Signature:	Date:
(3) Legal Name of Inventor: <b>Xuefeng Liu</b>	
Signature:	Date:
(4) Legal Name of Inventor: Chi-Chun Liu	
Signatura	Data

(5) Legal Name of Inventor: <b>Yongan Xu</b>	
Signature:	Date

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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 application.	invention in the
I have reviewed and understand the contents of the application, including the claim	ms.
I am aware of the duty to disclose to the United States Patent and Trademark Offi known to me to be material to patentability as defined in 37 C.F.R. § 1.56.	ice all information

Whereas, I ("ASSIGNOR") have made certain inventions, improvements, and discoveries (herein referred to as the "Invention") disclosed in the above-identified patent application and further identified by the IBM Docket Number provided above in the header of this document;

Whereas, International Business Machines Corporation (herein referred to as the "ASSIGNEE"), a corporation of New York having a place of business at Armonk, New York, desires to acquire, and I desire to grant to the ASSIGNEE, my 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, I hereby sell or have sold, assign or have assigned, and otherwise transfer or have transferred to the ASSIGNEE, its successors, legal representatives, and assigns, my entire worldwide right, title, and interest in and to the Invention, the above-identified United States patent application, and any and all other patent applications and patents for the Invention which may be applied for or granted therefore in the United States and in all foreign countries and jurisdictions, including all divisions, continuations, 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, I hereby authorize and request 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 the ASSIGNEE, its successors, legal representatives, and assigns, my entire worldwide right, title, and interest in and to the same to be held and enjoyed by the 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 me had this Assignment not been made; and I agree 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 and all

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(1) Legal Name of Inventor: Peng Xu	en de la companya de
Signature:	Date:
(2) Legal Name of Inventor: Kangguo Cheng	
Signature:	
(3) Legal Name of Inventor: Xuefeng Liu	
Signature: 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	
(4) Legal Name of Inventor: Chi-Chun Liu	
Signature:	Date:

(2) Legai ivaine or	invenior: xongan Au		
	<i>y</i>		#1
Signature:	· · · · · · · · · · · · · · · · · · ·	Date:	3/1/2018

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[ ] United States application or PCT international application number filed on
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I have reviewed and understand the contents of the 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 C.F.R. § 1.56.

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Now, therefore, for good and valuable consideration, the receipt and sufficiency thereof being hereby acknowledged, I hereby sell or have sold, assign or have assigned, and otherwise transfer or have transferred to the ASSIGNEE, its successors, legal representatives, and assigns, my entire worldwide right, title, and interest in and to the Invention, the above-identified United States patent application, and any and all other patent applications and patents for the Invention which may be applied for or granted therefore in the United States and in all foreign countries and jurisdictions, including all divisions. continuations, 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, I hereby authorize and request 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 the ASSIGNEE, its successors, legal representatives, and assigns, my entire worldwide right, title, and interest in and to the same to be held and enjoyed by the 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 me had this Assignment not been made; and I agree 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 and all

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(1) Legal Name of Inventor; Peng Au	
Signature:	Date:
(2) Legal Name of Inventor: Kangguo Cheng	
Signature:	Date:
(3) Legal Name of Inventor: <b>Xuefeng Liu</b>	
Signature:	Date:
(4) Legal Name of Inventor: Chi-Chun Liu	
Signature: Carlo Jin	Date: 2018/03/02

(5) Legal Name	of Inventor:	Yongan Xi	13.			
Signature					Date	

PATENT REEL: 049623 FRAME: 0930

**RECORDED: 06/28/2019**