PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT6376273

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
LIANHAI WU	09/28/2020
JING HAN	09/29/2020
HAIMING WANG	09/29/2020
JIE SHI	09/29/2020
HONGCHAO LI	09/29/2020

RECEIVING PARTY DATA

Name:	LENOVO (BEIJING) LIMITED
Street Address:	6 SHANGDI WEST ROAD
Internal Address:	HAIDIAN DISTRICT
City:	BEIJING
State/Country:	CHINA
Postal Code:	100085

PROPERTY NUMBERS Total: 1

Property Type	Number	
Application Number:	17044945	

CORRESPONDENCE DATA

Fax Number: (801)531-1929

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: 8019944646

Email: Iruiz-orellana@kba.law

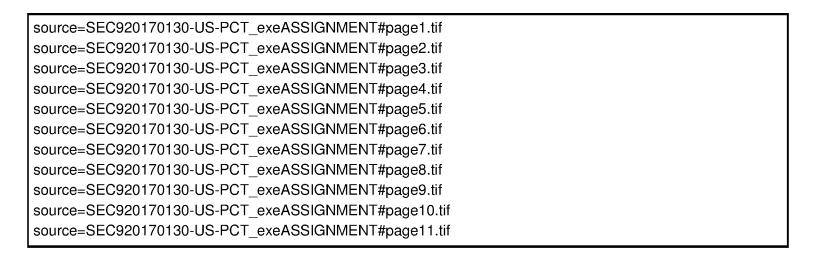
Correspondent Name: KUNZLER BEAN & ADAMSON
Address Line 1: 50 W BROADWAY, SUITE 1000
Address Line 4: SALT LAKE CITY, UTAH 84101

ATTORNEY DOCKET NUMBER:	SEC920170130-US-PCT
NAME OF SUBMITTER:	MICHAEL L. BARTHOLOMEW
SIGNATURE:	/Michael L. Bartholomew/
DATE SIGNED:	10/29/2020

Total Attachments: 11

PATENT REEL: 054217 FRAME: 0172

506329522



PATENT REEL: 054217 FRAME: 0173

ASSIGNMENT AND AGREEMENT

For good and valuable consideration, the receipt of which is hereby acknowledged, we, Lianhai Wu, Beijing, CHINA; Jing Han, Beijing, CHINA; Haiming Wang, Beijing, CHINA; Jie Shi, Beijing, CHINA; and Hongchao Li, Beijing, CHINA; have sold, assigned and transferred, and do hereby sell, assign and transfer, unto Lenovo (Beijing) Limited, a corporation of China, having a place of business at 6 Shangdi West Road, Haidian District, Beijing, China 100085, and its successors, assigns, and legal representatives, the entire right, title and interest for the United States of America in and to certain inventions described, illustrated and claimed in the following applications:

U.S. Application filed herein and entitled: "METHOD AND APPARATUS FOR RELAY DISCOVERY"; and

International Application PCT/CN2018/081975, filed on April 4, 2018 entitled "METHOD AND APPARATUS FOR RELAY DISCOVERY".

I hereby also sell, assign and transfer unto Assignee, the entire right, title and interest in and to the invention and in and to applications for Letters Patent therefor in all countries foreign to the United States of America, including all rights under any and all international conventions and treaties in respect of the invention and the applications for Letters Patent in foreign countries, and I further authorize Assignee to apply for Letters Patent in foreign countries directly in its own name, and to claim priority of the filing date of the application for Letters Patent of the United States of America under the provisions of any and all international conventions and treaties.

I hereby also sell, assign and transfer unto Assignee, the entire right, title and interest in and to other applications for Letters Patent on the inventions referenced in this Assignment and Agreement, and all rights, title and interest in and to all applications for Letters Patent in respect of the invention filed under any and all international conventions and treaties together with the entire right, title and interest in and to Letters Patent which may be issued upon the application(s) or any application(s) otherwise claiming priority thereto, and upon any divisions, extensions, continuations, reissues and/or reexaminations of such application(s).

I further authorize Assignee to apply for Letters Patent directly in its own name where applicable, and to claim priority of the filing date of the application for Letters Patent filed

I hereby authorize Assignee to request the Commissioner of Patents of the United States of America to issue any Letters Patents upon the aforesaid application, divisions, extensions, continuations, reissues or re-examinations, to Assignee, for the sole use and benefit of Assignee, to the full end of the term for which Letters Patent may be granted, the same as they would have been held and enjoyed by me had this assignment not been made, and I hereby authorize Assignee to request the equivalent authorities in foreign countries to issue the patents of their respective countries to Assignee.

I agree that, when requested, I will, without charge to Assignee, but at its expense, sign all papers, take all rightful oaths, and do all acts which may be necessary, desirable or convenient for securing, maintaining and enforcing patents for the inventions in any and all countries and for vesting title thereto in Assignee.

I covenant with Assignee that the interest and property hereby conveyed is free from all prior assignment, grant, mortgage, license or other encumbrance.

(1)	Legal Name of Inventor: Lianhai Wu		
	Signature: Lianhai Wu	Date:	20200928
(2)	Legal Name of Inventor: Jing Han		
	Signature:	Date:	
(3)	Legal Name of Inventor: Haiming Wang		
	Signature:	Date:	
(4)	Legal Name of Inventor: Jie Shi		
	Signature:	Date:	
(5)	Legal Name of Inventor: Hongchao Li		
	Signature:	Date:	

Page 2 of 2

ASSIGNMENT AND AGREEMENT

For good and valuable consideration, the receipt of which is hereby acknowledged, we, Lianhai Wu, Beijing, CHINA; Jing Han, Beijing, CHINA; Haiming Wang, Beijing, CHINA; Jie Shi, Beijing, CHINA; and Hongchao Li, Beijing, CHINA; have sold, assigned and transferred, and do hereby sell, assign and transfer, unto Lenovo (Beijing) Limited, a corporation of China, having a place of business at 6 Shangdi West Road, Haidian District, Beijing, China 100085, and its successors, assigns, and legal representatives, the entire right, title and interest for the United States of America in and to certain inventions described, illustrated and claimed in the following applications:

U.S. Application filed herein and entitled: "METHOD AND APPARATUS FOR RELAY DISCOVERY"; and

International Application PCT/CN2018/081975, filed on April 4, 2018 entitled "METHOD AND APPARATUS FOR RELAY DISCOVERY".

I hereby also sell, assign and transfer unto Assignee, the entire right, title and interest in and to the invention and in and to applications for Letters Patent therefor in all countries foreign to the United States of America, including all rights under any and all international conventions and treaties in respect of the invention and the applications for Letters Patent in foreign countries, and I further authorize Assignee to apply for Letters Patent in foreign countries directly in its own name, and to claim priority of the filing date of the application for Letters Patent of the United States of America under the provisions of any and all international conventions and treaties.

I hereby also sell, assign and transfer unto Assignee, the entire right, title and interest in and to other applications for Letters Patent on the inventions referenced in this Assignment and Agreement, and all rights, title and interest in and to all applications for Letters Patent in respect of the invention filed under any and all international conventions and treaties together with the entire right, title and interest in and to Letters Patent which may be issued upon the application(s) or any application(s) otherwise claiming priority thereto, and upon any divisions, extensions, continuations, reissues and/or reexaminations of such application(s).

I further authorize Assignee to apply for Letters Patent directly in its own name where applicable, and to claim priority of the filing date of the application for Letters Patent filed

I hereby authorize Assignee to request the Commissioner of Patents of the United States of America to issue any Letters Patents upon the aforesaid application, divisions, extensions, continuations, reissues or re-examinations, to Assignee, for the sole use and benefit of Assignee, to the full end of the term for which Letters Patent may be granted, the same as they would have been held and enjoyed by me had this assignment not been made, and I hereby authorize Assignee to request the equivalent authorities in foreign countries to issue the patents of their respective countries to Assignee.

I agree that, when requested, I will, without charge to Assignee, but at its expense, sign all papers, take all rightful oaths, and do all acts which may be necessary, desirable or convenient for securing, maintaining and enforcing patents for the inventions in any and all countries and for vesting title thereto in Assignee.

I covenant with Assignee that the interest and property hereby conveyed is free from all prior assignment, grant, mortgage, license or other encumbrance.

(1) Legal Name of Inventor: Lianhai Wu	
Signature:	Date:
(2) Legal Name of Inventor: Jing Han Signature: Jing Han	Date:
(3) Legal Name of Inventor: Haiming Wang Signature:	Date:
(4) Legal Name of Inventor: Jie Shi Signature:	Date:
(5) Legal Name of Inventor: Hongchao Li	
Signature:	Date:

ASSIGNMENT AND AGREEMENT

For good and valuable consideration, the receipt of which is hereby acknowledged, we, Lianhai Wu, Beijing, CHINA; Jing Han, Beijing, CHINA; Haiming Wang, Beijing, CHINA; Jie Shi, Beijing, CHINA; and Hongchao Li, Beijing, CHINA; have sold, assigned and transferred, and do hereby sell, assign and transfer, unto Lenovo (Beijing) Limited, a corporation of China, having a place of business at 6 Shangdi West Road, Haidian District, Beijing, China 100085, and its successors, assigns, and legal representatives, the entire right, title and interest for the United States of America in and to certain inventions described, illustrated and claimed in the following applications:

U.S. Application filed herein and entitled: "METHOD AND APPARATUS FOR RELAY DISCOVERY"; and

International Application PCT/CN2018/081975, filed on April 4, 2018 entitled "METHOD AND APPARATUS FOR RELAY DISCOVERY".

I hereby also sell, assign and transfer unto Assignee, the entire right, title and interest in and to the invention and in and to applications for Letters Patent therefor in all countries foreign to the United States of America, including all rights under any and all international conventions and treaties in respect of the invention and the applications for Letters Patent in foreign countries, and I further authorize Assignee to apply for Letters Patent in foreign countries directly in its own name, and to claim priority of the filing date of the application for Letters Patent of the United States of America under the provisions of any and all international conventions and treaties.

I hereby also sell, assign and transfer unto Assignee, the entire right, title and interest in and to other applications for Letters Patent on the inventions referenced in this Assignment and Agreement, and all rights, title and interest in and to all applications for Letters Patent in respect of the invention filed under any and all international conventions and treaties together with the entire right, title and interest in and to Letters Patent which may be issued upon the application(s) or any application(s) otherwise claiming priority thereto, and upon any divisions, extensions, continuations, reissues and/or reexaminations of such application(s).

I further authorize Assignee to apply for Letters Patent directly in its own name where applicable, and to claim priority of the filing date of the application for Letters Patent filed

I hereby authorize Assignee to request the Commissioner of Patents of the United States of America to issue any Letters Patents upon the aforesaid application, divisions, extensions, continuations, reissues or re-examinations, to Assignee, for the sole use and benefit of Assignee, to the full end of the term for which Letters Patent may be granted, the same as they would have been held and enjoyed by me had this assignment not been made, and I hereby authorize Assignee to request the equivalent authorities in foreign countries to issue the patents of their respective countries to Assignee.

I agree that, when requested, I will, without charge to Assignee, but at its expense, sign all papers, take all rightful oaths, and do all acts which may be necessary, desirable or convenient for securing, maintaining and enforcing patents for the inventions in any and all countries and for vesting title thereto in Assignee.

I covenant with Assignee that the interest and property hereby conveyed is free from all prior assignment, grant, mortgage, license or other encumbrance.

(1)	Legal Name of Inventor: Lianhai Wu			
	Signature:		Date:	_
(2)	Legal Name of Inventor: Jing Han			
	Signature:		Date:	_
(3)	Legal Name of Inventor: Haiming Wang Signature: Haiming Wang	_ Date:	Sep,29th, 2020	
(4)	Legal Name of Inventor: Jie Shi			
	Signature:		Date:	_

(5) Legal Name of Inventor: Hongchao Li

Signature:	Date:
ε	

ASSIGNMENT AND AGREEMENT

For good and valuable consideration, the receipt of which is hereby acknowledged, we, Lianhai Wu, Beijing, CHINA; Jing Han, Beijing, CHINA; Haiming Wang, Beijing, CHINA; Jie Shi, Beijing, CHINA; and Hongchao Li, Beijing, CHINA; have sold, assigned and transferred, and do hereby sell, assign and transfer, unto Lenovo (Beijing) Limited, a corporation of China, having a place of business at 6 Shangdi West Road, Haidian District, Beijing, China 100085, and its successors, assigns, and legal representatives, the entire right, title and interest for the United States of America in and to certain inventions described, illustrated and claimed in the following applications:

U.S. Application filed herein and entitled: "METHOD AND APPARATUS FOR RELAY DISCOVERY"; and

International Application PCT/CN2018/081975, filed on April 4, 2018 entitled "METHOD AND APPARATUS FOR RELAY DISCOVERY".

I hereby also sell, assign and transfer unto Assignee, the entire right, title and interest in and to the invention and in and to applications for Letters Patent therefor in all countries foreign to the United States of America, including all rights under any and all international conventions and treaties in respect of the invention and the applications for Letters Patent in foreign countries, and I further authorize Assignee to apply for Letters Patent in foreign countries directly in its own name, and to claim priority of the filing date of the application for Letters Patent of the United States of America under the provisions of any and all international conventions and treaties.

I hereby also sell, assign and transfer unto Assignee, the entire right, title and interest in and to other applications for Letters Patent on the inventions referenced in this Assignment and Agreement, and all rights, title and interest in and to all applications for Letters Patent in respect of the invention filed under any and all international conventions and treaties together with the entire right, title and interest in and to Letters Patent which may be issued upon the application(s) or any application(s) otherwise claiming priority thereto, and upon any divisions, extensions, continuations, reissues and/or reexaminations of such application(s).

I further authorize Assignee to apply for Letters Patent directly in its own name where applicable, and to claim priority of the filing date of the application for Letters Patent filed

under the laws of the applicable country and under the provisions of any and all international conventions and treaties.

I hereby authorize Assignee to request the Commissioner of Patents of the United States of America to issue any Letters Patents upon the aforesaid application, divisions, extensions, continuations, reissues or re-examinations, to Assignee, for the sole use and benefit of Assignee, to the full end of the term for which Letters Patent may be granted, the same as they would have been held and enjoyed by me had this assignment not been made, and I hereby authorize Assignee to request the equivalent authorities in foreign countries to issue the patents of their respective countries to Assignee.

I agree that, when requested, I will, without charge to Assignee, but at its expense, sign all papers, take all rightful oaths, and do all acts which may be necessary, desirable or convenient for securing, maintaining and enforcing patents for the inventions in any and all countries and for vesting title thereto in Assignee.

I covenant with Assignee that the interest and property hereby conveyed is free from all prior assignment, grant, mortgage, license or other encumbrance.

(i) Legal Name of Inventor: Lianhai Wu	
Signature:	Date:
(2) Legal Name of Inventor: Jing Han	
Signature:	Date:
(3) Legal Name of Inventor: Haiming Wang	
Signature:	Date:
(4) Legal Name of Inventor: Jie Shi	
Signature: <u>Jie Shi</u>	Date: 2620 9, 29
(5) Legal Name of Inventor: Hongchao Li	
Signature:	Date:

ASSIGNMENT AND AGREEMENT

For good and valuable consideration, the receipt of which is hereby acknowledged, we, Lianhai Wu, Beijing, CHINA; Jing Han, Beijing, CHINA; Haiming Wang, Beijing, CHINA; Jie Shi, Beijing, CHINA; and Hongchao Li, Beijing, CHINA; have sold, assigned and transferred, and do hereby sell, assign and transfer, unto Lenovo (Beijing) Limited, a corporation of China, having a place of business at 6 Shangdi West Road, Haidian District, Beijing, China 100085, and its successors, assigns, and legal representatives, the entire right, title and interest for the United States of America in and to certain inventions described, illustrated and claimed in the following applications:

U.S. Application filed herein and entitled: "METHOD AND APPARATUS FOR RELAY DISCOVERY"; and

International Application PCT/CN2018/081975, filed on April 4, 2018 entitled "METHOD AND APPARATUS FOR RELAY DISCOVERY".

I hereby also sell, assign and transfer unto Assignee, the entire right, title and interest in and to the invention and in and to applications for Letters Patent therefor in all countries foreign to the United States of America, including all rights under any and all international conventions and treaties in respect of the invention and the applications for Letters Patent in foreign countries, and I further authorize Assignee to apply for Letters Patent in foreign countries directly in its own name, and to claim priority of the filing date of the application for Letters Patent of the United States of America under the provisions of any and all international conventions and treaties.

I hereby also sell, assign and transfer unto Assignee, the entire right, title and interest in and to other applications for Letters Patent on the inventions referenced in this Assignment and Agreement, and all rights, title and interest in and to all applications for Letters Patent in respect of the invention filed under any and all international conventions and treaties together with the entire right, title and interest in and to Letters Patent which may be issued upon the application(s) or any application(s) otherwise claiming priority thereto, and upon any divisions, extensions, continuations, reissues and/or reexaminations of such application(s).

I further authorize Assignee to apply for Letters Patent directly in its own name where applicable, and to claim priority of the filing date of the application for Letters Patent filed

I hereby authorize Assignee to request the Commissioner of Patents of the United States of America to issue any Letters Patents upon the aforesaid application, divisions, extensions, continuations, reissues or re-examinations, to Assignee, for the sole use and benefit of Assignee, to the full end of the term for which Letters Patent may be granted, the same as they would have been held and enjoyed by me had this assignment not been made, and I hereby authorize Assignee to request the equivalent authorities in foreign countries to issue the patents of their respective countries to Assignee.

I agree that, when requested, I will, without charge to Assignee, but at its expense, sign all papers, take all rightful oaths, and do all acts which may be necessary, desirable or convenient for securing, maintaining and enforcing patents for the inventions in any and all countries and for vesting title thereto in Assignee.

I covenant with Assignee that the interest and property hereby conveyed is free from all prior assignment, grant, mortgage, license or other encumbrance.

Legal Name of Inventor: Lianhai Wu	
Signature:	_Date:
Legal Name of Inventor: Jing Han	
Signature:	Date:
Legal Name of Inventor: Haiming Wang	
Signature:	Date:
Legal Name of Inventor: Jie Shi	
Signature:	Date:
Legal Name of Inventor: Hongchao Li	
Signature:	Date: Sep 29th, 2020
	Legal Name of Inventor: Jing Han Signature: Legal Name of Inventor: Haiming Wang Signature: Legal Name of Inventor: Jie Shi Signature: Legal Name of Inventor: Hongchao Li

Page 2 of 2