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PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
LILI ZHANG	04/02/2020
DI ZHANG	04/03/2020
YONGQIANG PAN	03/04/2020
WEINAN HE	03/30/2020
DAPING ZHANG	04/07/2020
JIANJUN ZHAO	03/30/2020

RECEIVING PARTY DATA

Name:	ALIBABA GROUP HOLDING LIMITED
Street Address:	FOURTH FLOOR, ONE CAPITAL PLACE
Internal Address:	PO BOX 847
City:	GRAND CAYMAN
State/Country:	CAYMAN ISLANDS

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16577926

CORRESPONDENCE DATA

Fax Number:

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.

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ATTORNEY DOCKET NUMBER:	AB1-0784US
NAME OF SUBMITTER:	AMANDA SASSER
SIGNATURE:	/Amanda Sasser/
DATE SIGNED:	07/21/2020

PATENT REEL: 053268 FRAME: 0820

Total Attachments: 8		
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PATENT REEL: 053268 FRAME: 0821

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Serial Number	
Filing Date	
Inventorship	Zhang et al.
	Alibaba Group Holding Limited
	AB1-0784US
	PCT11694US

PATENT ASSIGNMENT

PARTIES TO THE ASSIGNMENT

Assignor(s):

Lili Zhang

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Jianjun Zhao

c/o Alibaba Group Legal Department 5/F, Building 3, No.969 West Wen Yi Road, Yu Hang District, Hangzhou, China. 311121 Assignee: Alibaba Group Holding Limited Fourth Floor, One Capital Place P.O. Box 847 Grand Cayman Cayman Islands

AGREEMENT

WHEREAS, ASSIGNOR(S) (listed above) are inventor(s) of an invention entitled "Communication Methods and Apparatuses" for which:

a provisional application for United States Letters Patent was filed on _______ and was given U.S. Serial No. ______ and/or

a foreign priority Chinese patent application was filed on 21 march 2017 and was given CN Patent Application Serial No. 201710169947.9and/or

a PCT international application for was filed on 12 March 2018 and was given PCT Serial No. PCT/CN2018/078669and/or

a non-provisional application for United States Letters Patent was:

filed on 20 September 2019 and was given U.S. Serial No. 16/577,926; or filed concurrently herewith. Assignors hereby authorize and request ASSIGNEE's legal representatives, of Lee & Hayes, P.C., 601 W Riverside Ave, Suite 1400, Spokane, Washington 99201, who are associated with customer number 29150, to insert in the caption above the serial

WHEREAS, Alibaba Group Holding Limited (hereinafter referred to as ASSIGNEE), a corporation of Cayman Islands having a place of business at Fourth Floor, One Capital Place, P.O. Box 847, Grand Cayman, Cayman Islands, is desirous of acquiring the entire right, title and interest in and to the invention and in and to any letters patent that may be granted therefore in the United States and in any and all foreign countries;

number and filing date of the patent application when known.

NOW, THEREFORE, in exchange for good and valuable consideration, the receipt of which is hereby acknowledged, ASSIGNOR(S) hereby sell, assign and transfer unto ASSIGNEE, the entire right, title and interest in and to said invention, said application and any and all

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letters patent which may be granted for said invention in the United States of America and its territorial possessions and in any and all foreign countries, and in any and all divisions, reissues and continuations thereof, including the right to file foreign applications directly in the name of ASSIGNEE and to claim priority rights deriving from said United States application to which said foreign applications are entitled by virtue of international convention, treaty or otherwise, said invention, application and all letters patent on said invention to be held and enjoyed by ASSIGNEE and its successors and assigns for their use and benefit and of their successors and assigns as fully and entirely as the same would have been held and enjoyed by ASSIGNOR(S) had this assignment, transfer and sale not been made. ASSIGNOR(S) hereby authorize and request the Commissioner of Patents and Trademarks to issue all letters patent on said invention to ASSIGNEE. ASSIGNOR(S) agree to execute all instruments and documents required for the making and prosecution of applications for United States and foreign letters patent on said invention, for litigation regarding said letters patent, or for the purpose of protecting title to said invention or letters patent therefore.

Lili zheng Lili Zhang <u>2020 4:2</u> Date (mm/dd/yyyy)	Witness Signature Vorg Bry W. Name (printed) 04 (52 2525) Date (mm/dd/yyyy)
Di Zhang Date (mm/dd/yyyy)	Witness Signature Name (printed) Date (mm/dd/yyyy)

Page 3 ct 4

letters patent which may be granted for said invention in the United States of America and its territorial possessions and in any and all foreign countries, and in any and all divisions, reissues and continuations thereof, including the right to file foreign applications directly in the name of ASSIGNEE and to claim priority rights deriving from said United States application to which said foreign applications are entitled by virtue of international convention, treaty or otherwise, said invention, application and all letters patent on said invention to be held and enjoyed by ASSIGNEE and its successors and assigns for their use and benefit and of their successors and assigns as fully and entirely as the same would have been held and enjoyed by ASSIGNOR(S) had this assignment, transfer and sale not been made. ASSIGNOR(S) hereby authorize and request the Commissioner of Patents and Trademarks to issue all letters patent on said invention to ASSIGNEE. ASSIGNOR(S) agree to execute all instruments and documents required for the making and prosecution of applications for United States and foreign letters patent on said invention, for litigation regarding said letters patent, or for the purpose of protecting title to said invention or letters patent therefore.

Lili Zhang	Witness Signature
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	Date (mm/dd/yyyy)
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Di Zhang	Witness Signature
04/03/2020	范旭东
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Page 3 of 4

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Weinan He	Witness Signature
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Daping Zhang	Witness Signature
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Jianjun Zhao	Witness Signature
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Yongqiang Pan	Witness Signature
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Daping Zhang	Witness Signature
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表文章 Jianjun Zhao <u>03/30/2020</u> Date (mm/dd/yyyy)	Witness Signature Witness Signature Name (printed) Oh 10 / WW Date (mm/dd/yyyy)