504161174 01/03/2017

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2

EPAS ID: PAT4207850

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
BRUCE MOISION	01/03/2017
EDWARD KEYES	01/03/2017
OLIVER BOWEN	01/03/2017
DEVIN BRINKLEY	12/29/2016
BARIS ERKMEN	12/30/2016

RECEIVING PARTY DATA

Name:	X DEVELOPMENT LLC
Street Address:	1600 AMPHITHEATRE PARKWAY
City:	MOUNTAIN VIEW
State/Country:	CALIFORNIA
Postal Code:	94043

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15393377

CORRESPONDENCE DATA

Fax Number: (908)654-7866

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: (908) 518-6385

Email: assignment@lernerdavid.com

LERNER, DAVID, LITTENBERG, KRUMHOLZ & MENTLIK, LLP **Correspondent Name:**

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Address Line 4: WESTFIELD, NEW JERSEY 07090

ATTORNEY DOCKET NUMBER:	ATOZX 3.0F-039
NAME OF SUBMITTER:	MELINDA C. CORMIER
SIGNATURE:	/Melinda C. Cormier/
DATE SIGNED:	01/03/2017

Total Attachments: 5

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PATENT REEL: 040828 FRAME: 0190

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> PATENT REEL: 040828 FRAME: 0191

ASSIGNMENT OF PATENT APPLICATION	ATOZX 3.0F-039
WHEREAS, I, <u>Bruce Moision</u> of <u>Palo Alto, California</u> , have invensubject matter of which is described in the patent application entitled "EFF FREE SPACE OPTICAL COMMUNICATION" (hereafter "Patent Application")	ICIENT AUTOMATIC REPEAT REQUEST FOR
WHEREAS (if the left box is checked), the Patent Application was Trademark Office on, Application Number	
WHEREAS (if the left box is checked), the Patent Application na Bruce Moision, Edward Keyes, Oliver Bowen, Devin Brinkley, and Baris Erki David, Littenberg, Krumholz & Mentlik, LLP, to insert in here in brackets [Apapplication number and filing date of the application when known), and	men (and whereas I hereby authorize Lerner,
WHEREAS, X Development LLC, incorporated or otherwise form at 1600 Amphitheatre Parkway; Mountain View, California 94043 (hereaf has acquired and is desirous of memorializing its acquisition further herein	ter, the "assignee") is desirous of acquiring, or
NOW, THEREFORE, for good and valuable consideration the reas follows. I agree to assign, and hereby do assign, to the assignee my exassigned Applications in the United States of America and all other countres Patent Application, including any and all inventions, discoveries and other continuation, continuation-in-part, substitute, reissue, re-examination or other to assign, to assignee the right to claim such priority or benefit. I have no obligation to convey, my rights in the Assigned Applications to a third party Trademark Office, and any other governmental agency in the world, to issue Assigned Applications and to record assignee's ownership thereof. At assignither remuneration, to execute and deliver documents prepared at assignuch as testimony, as may be reasonably required to evidence or protect assignee may assign or transfer all or part of its rights set forth herein in it affix its signature to this document as well as any other indicia of its accepherein is unenforceable, the requirements of the provision shall remain to offending portions thereof shall be deemed replaced, to the extent possible purpose of the offending provision.	ntire right, title and interest in and to the ies, where "Assigned Applications" means the subject matter described therein, any divisional, her application claiming priority or benefit to the om the foregoing. I agree to assign, and hereby the previously conveyed, nor am I aware of an A. I hereby authorize the U.S. Patent and use to assignee all patents resulting from the dignee's reasonable request I agree, without nee's expense and to provide other cooperation, assignee's rights in the Assigned Applications. Is sole discretion. I agree that the assignee may tance of the provisions hereof. If any provision the full extent permissible by law and the
paripose of the continuing provident	DocuSigned by:
1/3/2017	Bure Mission F66C5EF18EBD45E
(Date)	(Signature)

Docket Number (Optional)

ASSIGNMENT OF PATENT APPLICATION

ATOZX 3.0F-039

WHEREAS, I, Edward Keyes of Mountain View, Californ the subject matter of which is described in the patent application FOR FREE SPACE OPTICAL COMMUNICATION" (hereafter "Pa	
WHEREAS (if the left box is checked), the Patent Application Number	
WHEREAS (if the left box is checked), the Patent Appli Bruce Moision, Edward Keyes, Oliver Bowen, Devin Brinkley, and David, Littenberg, Krumholz & Mentlik, LLP, to insert in here in bra application number and filing date of the application when known),	<u>Baris Erkmen</u> (and whereas I hereby authorize Lerner, ackets [Application No. <u>15/393,377</u> , filed on <u>12/29/16</u>] the
WHEREAS, X <u>Development LLC</u> , incorporated or other at 1600 Amphitheatre <u>Parkway</u> ; Mountain View, California 9404 has acquired and is desirous of memorializing its acquisition further	
NOW, THEREFORE, for good and valuable considerati as follows. I agree to assign, and hereby do assign, to the assign Assigned Applications in the United States of America and all oth Patent Application, including any and all inventions, discoveries a continuation, continuation-in-part, substitute, reissue, re-examina Patent Application pursuant to any law or treaty, and any patent i do assign, to assignee the right to claim such priority or benefit. obligation to convey, my rights in the Assigned Applications to a trademark Office, and any other governmental agency in the work Assigned Applications and to record assignee's ownership thereofurther remuneration, to execute and deliver documents prepared such as testimony, as may be reasonably required to evidence on Assignee may assign or transfer all or part of its rights set forth haffix its signature to this document as well as any other indicia of herein is unenforceable, the requirements of the provision shall reoffending portions thereof shall be deemed replaced, to the exterpurpose of the offending provision.	ner countries, where "Assigned Applications" means the and other subject matter described therein, any divisional, ation or other application claiming priority or benefit to the issuing from the foregoing. I agree to assign, and hereby I have not previously conveyed, nor am I aware of an third party. I hereby authorize the U.S. Patent and rld, to issue to assignee all patents resulting from the of. At assignee's reasonable request I agree, without d at assignee's expense and to provide other cooperation, or protect assignee's rights in the Assigned Applications. Herein in its sole discretion. I agree that the assignee may its acceptance of the provisions hereof. If any provision emain to the full extent permissible by law and the
1/3/2017	Edward Keyrs
(Date)	(Signature)

ASSIGNMENT OF PATENT APPLICATION

ASSIGNMENT OF PATERT APPLICATION	ATOZX 3.0F-039
WHEREAS, I, <u>Oliver Bowen</u> of <u>Redwood City, California</u> , have in the subject matter of which is described in the patent application entitled "FOR FREE SPACE OPTICAL COMMUNICATION" (hereafter "Patent App	EFFICIENT AUTOMATIC REPEAT REQUEST
WHEREAS (if the left box is checked), the Patent Application was Trademark Office on, Application Number	s filed with the U.S. Patent and, and
WHEREAS (if the left box is checked), the Patent Application na Bruce Moision, Edward Keyes, Oliver Bowen, Devin Brinkley, and Baris Erk David, Littenberg, Krumholz & Mentlik, LLP, to insert in here in brackets [Apapplication number and filing date of the application when known), and	men (and whereas I hereby authorize Lerner,
WHEREAS, X <u>Development LLC</u> , incorporated or otherwise form at <u>1600 Amphitheatre Parkway</u> ; <u>Mountain View</u> , <u>California 94043</u> (hereaf has acquired and is desirous of memorializing its acquisition further herein	ter, the "assignee") is desirous of acquiring, or
NOW, THEREFORE, for good and valuable consideration the reas follows. I agree to assign, and hereby do assign, to the assignee my experience Assigned Applications in the United States of America and all other country. Patent Application, including any and all inventions, discoveries and other continuation, continuation-in-part, substitute, reissue, re-examination or of Patent Application pursuant to any law or treaty, and any patent issuing for do assign, to assignee the right to claim such priority or benefit. I have no obligation to convey, my rights in the Assigned Applications to a third party trademark Office, and any other governmental agency in the world, to iss Assigned Applications and to record assignee's ownership thereof. At assignther remuneration, to execute and deliver documents prepared at assig such as testimony, as may be reasonably required to evidence or protect assignee may assign or transfer all or part of its rights set forth herein in it affix its signature to this document as well as any other indicia of its acception is unenforceable, the requirements of the provision shall remain to offending portions thereof shall be deemed replaced, to the extent possible purpose of the offending provision.	ntire right, title and interest in and to the ies, where "Assigned Applications" means the subject matter described therein, any divisional, her application claiming priority or benefit to the om the foregoing. I agree to assign, and hereby t previously conveyed, nor am I aware of an A. I hereby authorize the U.S. Patent and ue to assignee all patents resulting from the tignee's reasonable request I agree, without nee's expense and to provide other cooperation, assignee's rights in the Assigned Applications. Is sole discretion. I agree that the assignee may tance of the provisions hereof. If any provision the full extent permissible by law and the
1/3/2017	Docusigned by:
(Date)	(Signature)

ASSIGNMENT OF PATENT APPLICATION

	ATOZX 3.0F-039
WHEREAS, I, <u>Devin Brinkley</u> of <u>Redwood City, California</u> , have the subject matter of which is described in the patent application entitled "FOR FREE SPACE OPTICAL COMMUNICATION" (hereafter "Patent Applications of the communication of the	EFFICIENT AUTOMATIC REPEAT REQUEST
WHEREAS (if the left box is checked), the Patent Application was Trademark Office on, Application Number	
WHEREAS (if the left box is checked), the Patent Application na Bruce Moision. Edward Keyes. Oliver Bowen. Devin Brinkley, and Baris Erk David, Littenberg, Krumholz & Mentlik, LLP, to insert in here in brackets [Application number and filing date of the application when known), and	men (and whereas I hereby authorize Lerner,
WHEREAS, X <u>Development LLC</u> , incorporated or otherwise form at 1600 Amphitheatre Parkway; Mountain View, California 94043 (herea has acquired and is desirous of memorializing its acquisition further herein	ter, the "assignee") is desirous of acquiring, or
NOW, THEREFORE, for good and valuable consideration the reas follows. I agree to assign, and hereby do assign, to the assignee my expectations in the United States of America and all other country Patent Application, including any and all inventions, discoveries and other continuation, continuation-in-part, substitute, reissue, re-examination or of Patent Application pursuant to any law or treaty, and any patent issuing from the assignet the right to claim such priority or benefit. I have not obligation to convey, my rights in the Assigned Applications to a third part Trademark Office, and any other governmental agency in the world, to issue Assigned Applications and to record assignee's ownership thereof. At assigned Application, to execute and deliver documents prepared at assignet as testimony, as may be reasonably required to evidence or protect	ntire right, title and interest in and to the ries, where "Assigned Applications" means the subject matter described therein, any divisional, her application claiming priority or benefit to the om the foregoing. I agree to assign, and hereby t previously conveyed, nor am I aware of an y. I hereby authorize the U.S. Patent and ue to assignee all patents resulting from the signee's reasonable request I agree, without nee's expense and to provide other cooperation,
Assignee may assign or transfer all or part of its rights set forth herein in ir affix its signature to this document as well as any other indicia of its accepherein is unenforceable, the requirements of the provision shall remain to offending portions thereof shall be deemed replaced, to the extent possible purpose of the offending provision.	s sole discretion. I agree that the assignee may tance of the provisions hereof. If any provision the full extent permissible by law and the
Assignee may assign or transfer all or part of its rights set forth herein in i affix its signature to this document as well as any other indicia of its accepherein is unenforceable, the requirements of the provision shall remain to offending portions thereof shall be deemed replaced, to the extent possible	s sole discretion. I agree that the assignee may tance of the provisions hereof. If any provision the full extent permissible by law and the e, with a provision most closely reflecting the
Assignee may assign or transfer all or part of its rights set forth herein in affix its signature to this document as well as any other indicia of its accepterein is unenforceable, the requirements of the provision shall remain to offending portions thereof shall be deemed replaced, to the extent possible purpose of the offending provision.	s sole discretion. I agree that the assignee may tance of the provisions hereof. If any provision the full extent permissible by law and the e, with a provision most closely reflecting the

RECORDED: 01/03/2017

ASSIGNMENT OF PATENT APPLICATION ATOZX 3.0F-039 WHEREAS, I, Baris Erkmen of Mountain View, California, have invented or discovered inventions or discoveries. the subject matter of which is described in the patent application entitled "EFFICIENT AUTOMATIC REPEAT REQUEST FOR FREE SPACE OPTICAL COMMUNICATION" (hereafter "Patent Application"), WHEREAS (if the left box is checked), the Patent Application was filed with the U.S. Patent and Trademark Office on ______, Application Number _____, and WHEREAS (if the left box is checked), the Patent Application names the following inventors: Bruce Moision, Edward Keyes, Oliver Bowen, Devin Brinkley, and Baris Erkmen (and whereas I hereby authorize Lerner, David, Littenberg, Krumholz & Mentlik, LLP, to insert in here in brackets [Application No. 15/393,377, filed on 12/29/16] the application number and filing date of the application when known), and WHEREAS, X Development LLC, incorporated or otherwise formed in Delaware and having a place of business at 1600 Amphitheatre Parkway; Mountain View, California 94043 (hereafter, the "assignee") is desirous of acquiring, or has acquired and is desirous of memorializing its acquisition further herein, the entire right, title and interest in same: NOW, THEREFORE, for good and valuable consideration the receipt of which is hereby acknowledged, I agree as follows. I agree to assign, and hereby do assign, to the assignee my entire right, title and interest in and to the Assigned Applications in the United States of America and all other countries, where "Assigned Applications" means the Patent Application, including any and all inventions, discoveries and other subject matter described therein, any divisional, continuation, continuation-in-part, substitute, reissue, re-examination or other application claiming priority or benefit to the Patent Application pursuant to any law or treaty, and any patent issuing from the foregoing. I agree to assign, and hereby do assign, to assignee the right to claim such priority or benefit. I have not previously conveyed, nor am I aware of an obligation to convey, my rights in the Assigned Applications to a third party. I hereby authorize the U.S. Patent and Trademark Office, and any other governmental agency in the world, to issue to assignee all patents resulting from the Assigned Applications and to record assignee's ownership thereof. At assignee's reasonable request I agree, without further remuneration, to execute and deliver documents prepared at assignee's expense and to provide other cooperation, such as testimony, as may be reasonably required to evidence or protect assignee's rights in the Assigned Applications. Assignee may assign or transfer all or part of its rights set forth herein in its sole discretion. I agree that the assignee may affix its signature to this document as well as any other indicia of its acceptance of the provisions hereof. If any provision herein is unenforceable, the requirements of the provision shall remain to the full extent permissible by law and the offending portions thereof shall be deemed replaced, to the extent possible, with a provision most closely reflecting the purpose of the offending provision. 12/30/2016 D64370861E62484 (Date) (Signature)

PATENT REEL: 040828 FRAME: 0196