505046348 08/10/2018

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5093101

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
MUGE WANG	07/31/2018
JUNJI SUGISAWA	07/31/2018

RECEIVING PARTY DATA

Name:	APPLE INC.	
Street Address:	ONE APPLE PARK WAY	
City:	CUPERTINO	
State/Country:	CALIFORNIA	
Postal Code:	95014	

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16100780

CORRESPONDENCE DATA

Fax Number: (650)938-5200

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: 6503357673

Email: lburshteyn@fenwick.com
Correspondent Name: JENNIFER GALELA

Address Line 1: 801 CALIFORNIA STREET

Address Line 2: MOUNTAIN VIEW

Address Line 4: MOUNTAIN VIEW, CALIFORNIA 94041

ATTORNEY DOCKET NUMBER:	32685-40281/US	
NAME OF SUBMITTER:	JENNIFER GALELA, REG. NO. 74,501	
SIGNATURE:	/Jennifer Galela/	
DATE SIGNED:	08/10/2018	

Total Attachments: 4

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PATENT 505046348 REEL: 046617 FRAME: 0816

ASSIGNMENT

For good and valuable consideration, the receipt of which is hereby acknowledged, the person(s) named below (referred to as "INVENTOR" whether singular or plural) has sold, assigned, and transferred and does hereby sell, assign, and transfer to Apple Inc., a California Corporation, having a place of business at One Apple Park Way, Cupertino CA 95014 ("ASSIGNEE"), for itself and its successors, transferees, and assignces, the following:

- 1. The entire worldwide right, title, and interest in all inventions and improvements ("SUBJECT MATTER") that are disclosed in the following provisional or non-provisional application filed under 35 U.S.C. § 111, design application filed under 35 U.S.C. § 171, Registered Community Designs, international application filed according to the Patent Cooperation Treaty (PCT), or U.S. national phase application filed under 35 U.S.C. § 371 ("APPLICATION"):
 - Application No. 16/100,780 , entitled "CIRCUIT FOR PERFORMING NORMALIZED CROSS CORRELATION," filed on August 10, 2018.
- 2. The entire worldwide right, title, and interest in and to:
 (a) the APPLICATION; (b) all applications claiming priority from the APPLICATION;
 (c) all provisional, utility, divisional, continuation, substitute, renewal, reissue, and other applications related thereto that have been or may be filed in the United States or elsewhere in the world; (d) all patents (including reissues and re-examinations) that may be granted on the applications set forth in (a), (b), and (c) above; and (e) all right of priority in the APPLICATION and in any underlying provisional or foreign application, together with all rights to recover damages for infringement of provisional rights.

INVENTOR agrees that ASSIGNEE may apply for and receive patents for SUBJECT MATTER in ASSIGNEE's own name.

INVENTOR agrees to do the following, when requested, and without further consideration, in order to carry out the intent of this Assignment: (1) execute all oaths, assignments, powers of attorney, applications, and other papers necessary or desirable to fully secure to ASSIGNEE the rights, titles and interests herein conveyed; (2) communicate to ASSIGNEE all known facts relating to the SUBJECT MATTER; and (3) generally do all lawful acts that ASSIGNEE shall consider desirable for securing, maintaining, and enforcing worldwide patent protection relating to the SUBJECT MATTER and for vesting in ASSIGNEE the rights, titles, and interests herein conveyed. INVENTOR further agrees to provide any successor, assign, or legal representative of ASSIGNEE with the benefits and assistance provided to ASSIGNEE hereunder.

INVENTOR represents that INVENTOR has the rights, titles, and interests to convey as set forth herein, and covenants with ASSIGNEE that the INVENTOR has not made and will not hereafter make any assignment, grant, mortgage, license, or other agreement affecting the rights, titles, and interests herein conveyed.

Lof 2

32685/40281/FW/10219539.1

Title: CIRCUIT FOR PERFORMING NORMALIZED CROSS CORRELATION			
Filed:	August 10, 2018	Atty Docket #:	32685-40281/US
Application #:	16/100,780	Client Ref#:	P38514US1

INVENTOR grants the attorney of record the power to insert on this Assignment any further identification that may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office or other authority for recordation of this document.

This Assignment may be executed in one or more counterparts, each of which shall be deemed an original and all of which may be taken together as one and the same Assignment.

Name and Signature	Date of Signature
Muge Wang	07/31/2018
Name and Signature	Date of Signature
Lunii Sugisowa	

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32685/40281/EW/10219539.1

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This Assignment may be executed in one or more counterparts, each of which shall be deemed an original and all of which may be taken together as one and the same Assignment.

Name and Signature	Date of Signature
Muge Wang	
Name and Signature	Date of Signature
Junji Sugisawa	7731/28/2

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