PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2

EPAS ID: PAT5713535

SUBMISSION TYPE:	NEW ASSIGNMENT	
NATURE OF CONVEYANCE:	ASSIGNMENT	

CONVEYING PARTY DATA

Name	Execution Date
ALEXANDER LINDSKOG	09/10/2019
MICHAEL W. TAO	09/10/2019
MARK N. JOUPPI	09/10/2019

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:	16567581

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.

Phone: 713-228-6601

Email: mbrininger@blankrome.com

APPLE - BLANK ROME C/O BLANK ROME LLP **Correspondent Name:**

Address Line 1: 717 TEXAS AVENUE, SUITE 1400

Address Line 4: HOUSTON, TEXAS 77002

ATTORNEY DOCKET NUMBER:	P39117US1 (119-1660US1)	
NAME OF SUBMITTER:	JEFFREY D. CHI	
SIGNATURE:	/Jeffrey D. Chi/	
DATE SIGNED:	09/11/2019	

Total Attachments: 3

source=P39117US1_Assignment#page1.tif source=P39117US1_Assignment#page2.tif source=P39117US1_Assignment#page3.tif

> **PATENT** REEL: 050343 FRAME: 0583 505666728

Docket No.: P39117US1 (119-1660US1)

ASSIGNMENT

FOR GOOD AND VALUABLE CONSIDERATION, the receipt, sufficiency and adequacy of which is hereby acknowledged, the undersigned does hereby:

SELL, ASSIGN AND TRANSFER to Apple Inc., (the "Assignee"), a corporation of California having a place of business at One Apple Park Way, Cupertino, California 95014 the entire right, title and interest for the United States and all foreign countries, in and to any and all improvements which are disclosed in the application for United States Letters Patent entitled: Disparity Estimation Using Sparsely-Distributed Phase Detection Pixels, which was filed as indicated below (the below-signed Assignors hereby grant the Assignee's designated agent to fill in this information after their signatures are applied):

	is to be filed herewith;
\boxtimes	was filed on <u>September 11, 2019</u> , now bearing U.S. Serial Number <u>16/567,581</u>
Latin da ta	

and all divisional, continuing, continuation-in-part, substitute, renewal, reissue and all other applications for patent which have been or shall be filed in the United States and all foreign countries on any of such improvements; all original and reissued patents which have been or shall be issued in the United States and all foreign countries on such improvements; and specifically including the right to file foreign applications under the provisions of any convention or treaty and claim priority based on such application in the United States;

AUTHORIZE AND REQUEST the issuing authority to issue any and all United States and foreign patents granted on such improvements to the Assignee;

WARRANT AND COVENANT that no assignment, grant, mortgage, license or other agreement affecting the rights and property herein conveyed has been or will be made to others by the undersigned, and that the full right to convey the same as herein expressed is possessed by the undersigned;

COVENANT that, when requested and at the expense of the Assignee, to carry out in good faith the intent and purpose of this assignment, the undersigned will execute all non-provisional, divisional, continuing, continuation-in-part, substitute, renewal, reissue and all other patent applications on any and all such improvements; execute all rightful oaths, declarations, assignments, powers of attorney and other papers; communicate to the Assignee all facts known to the undersigned relating to such improvements and the history thereof; and generally do everything possible which the Assignee shall consider desirable for securing,

Docket No.: P39117US1 (119-1660US1)

maintaining and enforcing proper patent protection for such improvements and for vesting title to such improvements in the Assignee;

TO BE BINDING on the heirs, assigns, representatives and successors of the undersigned and extend to the successors, assigns and nominees of the Assignee.

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.

Executed on	9/10/19	by	46-6-	
	Date		Alexander Lindskog	
Executed on		by		
	Date		Michael W. Tao	
	· · · · · · · · · · · · · · · · · · ·			
Executed on	9/10/19	by	Mark Propi	· · · · · · · · · · · · · · · · · · ·
	Date		Mark N. Jouppi	

Docket No.: P39117US1 (119-1660US1)

maintaining and enforcing proper patent protection for such improvements and for vesting title to such improvements in the Assignee;

TO BE BINDING on the heirs, assigns, representatives and successors of the undersigned and extend to the successors, assigns and nominees of the Assignee.

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.

Executed on		by	
	Date		Alexander Lindskog
Executed on	<u>9∫16∫15</u> Date	by	Michael W. Tao
Executed on		by	Mark N. Jounni