

PATENT ASSIGNMENT COVER SHEET

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| SUBMISSION TYPE: | NEW ASSIGNMENT | |
| NATURE OF CONVEYANCE: | ASSIGNMENT | |
| CONVEYING PARTY DATA | | |
| | Name | Execution Date |
| | TAO WANG | 05/02/2018 |
| | MANSOUR KERAMAT | 05/02/2018 |
| | YI CHUN A. FU | 05/02/2018 |
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| State/Country: | CALIFORNIA | |
| Postal Code: | 95014 | |
| PROPERTY NUMBERS Total: 1 | | |
| Property Type | Number | |
| Application Number: | 15969547 | |
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| NAME OF SUBMITTER: | JACOB AIKIN | |
| SIGNATURE: | /Jacob Aikin/ | |
| DATE SIGNED: | 05/02/2018 | |
| Total Attachments: 2 | | |
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| source=P37921US1_ASSIGNMENT_signed#page2.tif | | |

ASSIGNMENT OF PATENT APPLICATION

Attorney Docket No.: 026057.37921

For good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, I/we, the undersigned, Tao Wang, Mansour Keramat, Yi Chun A Fu, hereby sell, assign, and transfer to Apple Inc.,

a corporation of California
(Type of Assignee: e.g., corporation, company, partnership, university, etc.)

having a principal place of business at One Apple Park Way, Cupertino, CA, 95014,

("Assignee"), and its successors, assigns, and legal representatives, the entire right, title, and interest for the United States and all foreign countries, in and to any and all inventions or improvements that are disclosed in the application (provisional or non-provisional) for the United States patent which for the non-provisional application may have a declaration executed by the undersigned prior hereto or concurrently herewith and which application (provisional or non-provisional) is entitled

**CAPACITOR STRUCTURE WITH CORRELATED ERROR MITIGATION AND
IMPROVED SYSTEMATIC MISMATCH IN TECHNOLOGIES WITH MULTIPLE
PATTERNING**

said patent application also identified as follows (when known):

[I/we hereby authorize an attorney or agent for said Assignee to insert below the application number and filing date of said patent application when known.]

United States Patent Application Number 15/969,547 filed May 2, 2018,

and in and to said application (provisional or non-provisional) and all provisional applications, non-provisional applications, utility applications, design applications, divisional applications, continuation applications, continued prosecution applications, continuation-in-part applications, substitute applications, renewal applications, reissue applications, reexaminations, extensions, and all other patent applications that have been or shall be filed in the United States and all foreign countries on any of said inventions or improvements; and in and to all original patents, reissued patents, reexamination certificates, and extensions, that have been or shall be issued in the United States and all foreign countries on said inventions or improvements; and in and to all rights of priority resulting from the filing of said United States application;

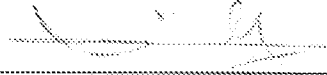
agree that said Assignee may apply for and receive a patent or patents for said inventions or improvements in its own name; and that, when requested, without charge to, but at the expense of, said Assignee, its successors, assigns, and legal representatives, to carry out in good faith the intent and purpose of this Assignment, the undersigned will execute all provisional applications, non-provisional applications, utility applications, design applications, divisional applications, continuation applications, continued prosecution applications, continuation-in-part applications, substitute applications, renewal applications, reissue applications, reexaminations, extensions, and all other patent applications on any and all said inventions or improvements; execute all rightful oaths, assignments, powers of attorney, and other papers; communicate to said Assignee, its successors, assigns, and representatives all facts known to the undersigned relating to said inventions or improvements and the history thereof; and generally assist said Assignee, its successors, assigns, or representatives in securing and maintaining proper patent protection for said inventions or improvements and for vesting title to said inventions or

improvements, and all applications for patents and all patents on said inventions or improvements, in said Assignee, its successors, assigns, and legal representatives; and

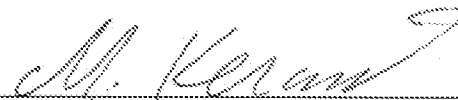
covenant with said Assignee, its successors, assigns, and legal representatives that no assignment, grant, mortgage, license, or other agreement affecting the rights and property herein conveyed has been made to others by the undersigned, and that full right to convey the same as herein expressed is possessed by the undersigned.

Each Inventor: Please Sign and Date Below:

5/2, 2018
Date


Name: Tao Wang

5/2, 2018
Date


Name: Mansour Keramat

5/2, 2018
Date


Name: Yi Chun A Fu

Assignment Document Return Address:

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