502272976 03/15/2013

PATENT ASSIGNMENT

Electronic Version v1.1 Stylesheet Version v1.1

| SUBMISSION TYPE: | NEW ASSIGNMENT |
|-----------------------|----------------|
| NATURE OF CONVEYANCE: | ASSIGNMENT |

CONVEYING PARTY DATA

| Name | Execution Date |
|--------------------------|----------------|
| Hongbo Zhang | 03/14/2013 |
| Nikolay Voznesenskiy | 03/14/2013 |
| Qiliang Yan | 03/14/2013 |
| Ebo Kwabena Gyan Croffie | 03/14/2013 |

RECEIVING PARTY DATA

| Name: | Synopsys, Inc. |
|-----------------|-----------------------------------|
| Street Address: | 700 East Middlefield Rd., Bldg. C |
| City: | Mountain View |
| State/Country: | CALIFORNIA |
| Postal Code: | 94043 |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 13838845 |

CORRESPONDENCE DATA

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| ATTORNEY DOCKET NUMBER: | SYN-2119 |
|-------------------------|-------------------|
| NAME OF SUBMITTER: | Jeanette S. Harms |

Total Attachments: 2

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PATENT REEL: 030018 FRAME: 0185 JP \$40.00 13838845

ASSIGNMENT

For good and valuable consideration, receipt of which is hereby acknowledged, we

Hongbo Zhangof2430 NW Schmidt Way Apt. 276 Beaverton, OR 97006Nikolay VoznesenskiyofMoisavahe 38-95 Tartu 50708 EstoniaQiliang Yanof14561 NW Lindy Ln. Portland, OR 97229Ebo Kwabena Gyan Croffieof18283 NW Chemeketa Ln. Apt. A Portland, OR 97229

hereby sell, assign and transfer to Synopsys, Inc., a Delaware corporation, having a place of business at 700 East Middlefield Rd., Bldg. C. Mountain View, CA 94043, its successors and assigns, the entire right, title and interest throughout the world in our invention in

"COMPACT AND ACCURATE WAFER TOPOGRAPHY PROXIMITY EFFECT MODELING FOR FULL CHIP SIMULATION"

for which we will execute a United States patent application on or about the date of this assignment, and all patent applications and patents of every country for said invention, including divisions, reissues, continuations and extensions thereof, and all rights of priority resulting from the filing of said applications; we authorize the above-named assignee to apply for patents of foreign countries for said invention, and to claim all rights of priority without further authorization from us; we agree to execute all papers useful in connection with said United States and foreign applications, and generally to do everything possible to aid said assignee, their successors, assigns and nominees, at their request and expense, in obtaining and enforcing patents for said invention in all countries; and we request the Commissioner of Patents and Trademarks to issue all patents granted for said invention to the above-named assignee, its successors and assigns.

| Executed this 14th day of March | , 2013. | Hongbo Zhang |
|---------------------------------|---------|---------------------------|
| Executed this day of | , 2013. | Nikolay Voznesenskiy |
| Executed this 14th day of March | , 2013. | Qiliang Yan |
| Executed this 14th day of March | , 2013. | Ebo Kwabena Gyafi Croffie |

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ASSIGNMENT

For good and valuable consideration, receipt of which is hereby acknowledged, we

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Nikolay Voznesenskiy of Moisavahe 38-95 Tartu 50708 Estonia

Qiliang Yan of 14561 NW Lindy Ln. Portland, OR 97229

Ebo Kwabena Gyan Croffie of 18283 NW Chemeketa Ln. Apt. A Portland, OR 97229

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| Executed this | day of | , 2013. | |
|---------------|--------------|---------|--------------------------|
| - | | | Hongbo Zhang |
| Executed this | day of March | , 2013. | Nikolay Voznesenskiy |
| Executed this | day of | , 2013. | Qiliang Yan |
| Executed this | day of | , 2013. | Eho Kwahena Gyan Croffie |

PATENT REEL: 030018 FRAME: 0187

RECORDED: 03/15/2013