503390563 07/14/2015

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT3437188

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

CONVEYING PARTY DATA

| Name | Execution Date |
|---------------------|----------------|
| Wen-Juh Kang | 07/07/2015 |
| Yen-Chung Tony Chen | 07/07/2015 |
| Chen-Yang Pan | 07/07/2015 |

RECEIVING PARTY DATA

| Name: | GLOBAL UNICHIP CORPORATION |
|-----------------|---|
| Street Address: | No. 10, Li-Hsin 6th Rd., Hsinchu Science Park |
| City: | Hsinchu City |
| State/Country: | Taiwan ROC |
| Postal Code: | 300 |
| Name: | TAIWAN SEMICONDUCTOR MANUFACTURING CO., LTD. |
| Street Address: | No. 8, Li-Hsin Rd. 6, Hsin-Chu Science Park |
| City: | Hsin-Chu |
| State/Country: | Taiwan ROC |
| Postal Code: | 300 |

PROPERTY NUMBERS Total: 1

| Property Type | Number | | | | |
|---------------------|----------|--|--|--|--|
| Application Number: | 14798605 | | | | |

CORRESPONDENCE DATA

Fax Number: (703)880-7487

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: 703-639-0151

Email: assignment@WPAT.COM

Correspondent Name: WPAT, PC INTELLECTUAL PROPERTY ATTORNEYS

Address Line 1: 8230 BOONE BLVD, SUITE 405

Address Line 4: VIENNA, VIRGINIA 22182

| ATTORNEY DOCKET NUMBER: | 67407-545 |
|-------------------------|---------------|
| NAME OF SUBMITTER: | JUSTIN KING |
| SIGNATURE: | /Justin King/ |

PATENT 503390563 REEL: 036077 FRAME: 0363

| DATE SIGNED: | 07/14/2015 |
|---|--|
| | This document serves as an Oath/Declaration (37 CFR 1.63). |
| Total Attachments: 3 source=CDA#page1.tif source=CDA#page2.tif source=CDA#page3.tif | |

PATENT REEL: 036077 FRAME: 0364

| Serial No | |
|------------------------------|--------|
| Attorney Docket No | |
| Ref. No. 2013-034 | ****** |
| VMAGNOSOLS II AM 3aQ joingus | |

Combined Declaration and Assignment for Patent Application

For the subject matter which is claimed and for which a patent is sought on the invention entitled:

| CLOCK DATA RECOVER | Y SYSTEM FOR SERDES | |
|---------------------------------------|--|--|
| I hereby declare that: As a below nan | ned inventor | |
| The specification of which is atta | ached hereto unless the following box is checked | |
| ☐ was filed on | | |
| as United States Application Nu | mber or PCT International Application Number | |
| | | |
| | | |

The above-identified application was made or authorized to be made by me.

I believe I am the original inventor or an original joint inventor of a claimed invention in the application.

I hereby acknowledge that willful false statements made in this statement is punishable under 18 U.S.C. 1001 by fine or/and imprisonment of not more than five (5) years.

ASSIGNMENT

WHEREAS, I(we), the named inventor(s), whose post office address(es) appear(s) below, hereinafter referred to as Assignor,

WHEREAS, GLOBAL UNICHIP CORPORATION whose post office address is No. 10, Li-Hsin 6th Rd., Hsinchu Science Park, Hsinchu City 300, Taiwan

and Talwan Semiconductor Manufacturing Co., Ltd. whose post office address is No. 8, LI-Hsin Rd. 6,Hsin-Chu Science Park, Hsin-Chu, Talwan 300, R.O.C.

hereinafter referred to as Assignes, is desirous of acquiring the entire right, title and interest in and to the same in the United States and its territorial possessions.

NOW, THEREFORE, for good and valuable consideration, receipt of which is hereby acknowledged, I (we), Assignon, by these presents do sell, assign and transfer unto said Assignee, the entire right, title, and interest in and to said Invention and application throughout the United States of America, including any and all Letters Patent granted on any division, continuation, continuation-in-part, and reissue of said application for the full term or terms for which the same may be granted, including all priority rights under any International Convention.

ASSIGNOR further covenants that no assignments, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this Assignment.

| Serial No. | |
|---------------------|---|
| Attorney Docket No. | |
| Ref. No. 2013-034 | *************************************** |
| Sundial Ref. No. US | 10624PAMY |

ALSO, Assignce hereby agrees to execute any documents that legally may be required in connection with the filling, prosecution and maintenance of said application or any other patent application(s) in the United States for said Invention, including additional documents that may be required to affirm the rights of Assignce in and to said Invention, all without further consideration. Assignce is expense, to identify and communicate to Assignce at Assignce's request documents and information concerning the Invention that are within Assignce's possession or control, and to provide further assurances and testimony on behalf of Assignce that lawfully may be required of Assignor in respect of the prosecution, maintenance, litigation and defense of any patent application or patent encompassed within the terms of this instrument. Assignor's obligations under this instrument shall extend to Assignor's heirs, executors, administrators and other legal representatives;

ALSO, Assignor hereby authorizes and requests the Commissioner of Patents and Trademarks to issue any and all Letters Patent referred to above to Assignee, as the Assignee of the entire right, title and interest in and to the same, for Assignee's sols use and behoof, and for the use and behoof of Assignee's legal representatives and successors, to the full end of the term for which such Letters Patent may be granted, as fully and entirely as the same would have been held by Assignor had this assignment and sale not been made.

| Legal Name of the Sole Or F | irst Inventor | | | | | | |
|--|------------------|----------------------------|-------------------------------|--|--|--|--|
| First And Middle Name Wen-Juh | Last Nai Kang | Last Name of Inventor Kang | | | | | |
| Signature## | 2 11 mm 4 | Signature Date (m | 1211 12411 1 24100 | | | | |
| Residence City Hsinchu | State | Crizenship Taiwan, R.O. | Critizenship Taiwan, R.O.C | | | | |
| Mailing Address No. 10, Li-Hsin 6th Rd., Hsinchu Science Park, Hsinchu City 300, Taiwan, R.O.C. | | | | | | | |
| City Hsinchu | State | Žip 300 | Country Taiwan, R.O.C. | | | | |

| Legal Name of the Joint Inve | entor | | | | | | |
|--|------------------|-------------------|---------------------------|--|--|--|--|
| First And Middle Name Yen-Chung Tony | Last Nat Chen | ne of Inventor | | | | | |
| Signature簽字 | | Signature Date (n | ionth/day/year) | | | | |
| You Chine (| U. | 7/7 /2015 | | | | | |
| Residence: City (| State | Citizenship | - | | | | |
| Hsinchu ^U | | Taiwan, R.O. | ₩ | | | | |
| Mailing Address No. 10, Li-Hsin 6th Rd., Hsinchu Science Park, Hsinchu City 300, Taiwan, R.O.C. | | | | | | | |
| City Hsinchu | State | Zip 300 | Country Talwan, R.O.C. | | | | |

| | | | ********* | 000000000000000000 | imminiii. | *************************************** | 0000000000000000 | *********** | *********** | eccessoraceasaccasccascca |
|--------------|--------|----------|-----------|--------------------|-----------|---|------------------|-----------------|-------------|---------------------------|
| Legal Name o | if the | Joint Ir | ventor | | | | | | | |
| ~ | | | | | | | | | | |

| Ref. No. 2013- | ot No | | | |
|---------------------------------------|------------------------|------------------------|--|---------|
| First And Middle Name | | Last Name of Inventor | | 2222222 |
| Chen-Yang | | Pan | | |
| Signature簽字 | - 772 F | | sture Date (month/day/year) 7/7 /2015 | unninni |
| Residence City | State / | | inship | |
| Hsinchu | / | Tai | van, R.O.C. | |
| Mailing Address No. 10, Li-Hsin 6t | h Rd., Hsinchu Science | e Park, Hsinchu City 3 | 00, Taiwan, R.O.C. | |
| City Hsinchu | State | Zip 300 | Country Taiwan, R.O.C. | |