505496701 05/28/2019

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5543505

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

CONVEYING PARTY DATA

| Name | Execution Date |
|--------------------------|----------------|
| ELAD MENTOVICH | 04/28/2019 |
| DIMITRIOS KALAVROUZIOTIS | 04/22/2019 |
| MEHDI ASGHARI | 04/29/2019 |
| JOAN FONG | 04/24/2019 |
| WEI LIU | 04/28/2019 |
| WEI QIAN | 05/08/2019 |
| DAZENG FENG | 05/03/2019 |

RECEIVING PARTY DATA

| Name: | MELLANOX TECHNOLOGIES SILICON PHOTONICS INC. |
|-----------------|--|
| Street Address: | 2630 CORPORATE PLACE |
| City: | MONTEREY PARK |
| State/Country: | CALIFORNIA |
| Postal Code: | 91754 |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 16368628 |

CORRESPONDENCE DATA

Fax Number: (858)458-9986

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: 858-458-3607

Email: lucille.begalla@bbiplaw.com

Correspondent Name: TRAVIS L. DODD

Address Line 1: 4370 LA JOLLA VILLAGE DRIVE

Address Line 2: SUITE 303

Address Line 4: SAN DIEGO, CALIFORNIA 92122

| ATTORNEY DOCKET NUMBER: | LT4320 |
|-------------------------|------------------|
| NAME OF SUBMITTER: | TRAVIS L. DODD |
| SIGNATURE: | /Travis L. Dodd/ |
| DATE SIGNED: | 05/28/2019 |

505496701 PATENT REEL: 049299 FRAME: 0564

| Total Attachments: 21 |
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PATENT REEL: 049299 FRAME: 0565

THIS ASSIGNMENT, by Elad Mentovich, residing at 13 Moshe Perlok St., Tel Aviv, Israel; Dimitrios Kalavrouziotis, residing at Efesou 12, Papagou, 15669, Greece; Mehdi Asghari, residing at 1213 Flintridge Circle, La Canada Flintridge, California 91011, United States of America; Joan Fong, residing at 2139 Melville Drive, San Marino, California 9108, United States of America; Wei Liu, residing at 1033 Crestview Dr., Unit 204, Mountain View, California 94040, United States of America; Wei Qian, residing at 1800 Oak Street, #204, Torrance, CA 90501, United States of America; Dazeng Feng, residing at 12016 Hallwood Drive, El Monte, California 91732, United States of America; (hereinafter referred to as "the Assignors"), respectively, witnesseth:

WHEREAS, the Assignors have invented certain new and useful improvements in

OPTICAL MODULATION STRUCTURE FOR USE WITH OPTICAL CHIPS

| set fo | rth in a | an app | lication for Letters Patent of the United States, which is a |
|--------|-------------|-------------|--|
| (1) | | provi | sional application |
| | (a) | | bearing Application No, and filed on; |
| | (b) | | to be filed herewith; or |
| (2) | \boxtimes | non-p | provisional application |
| | (a) | \boxtimes | bearing Application No. 16/368.628, and filed on March 28, 2019; |
| | (b) | | having an oath or declaration executed on even date herewith prior to filing of application; |
| | (c) | | having an oath or declaration executed on a different date than this Assignment; and |

Whereas, Mellanox Technologies Silicon Photonics Inc., a corporation having a principal place of business at 2630 Corporate Place, Monterey Park, California 91754, United States of America (hereinafter referred to as "the Assignee"), is desirous of acquiring the entire right, title, and interest in and to said inventions, the right to file applications on said inventions and the entire right, title and interest in and to any applications, including provisional applications for Letters Patent of the United States or other countries claiming priority to said application, and in and to any Letters Patent or Patents, United States or foreign, to be obtained therefore and thereon.

NOW, THEREFORE, for good and sufficient consideration, the receipt of which is hereby acknowledged, the Assignors have sold, assigned, transferred, and set over, and by these presents do sell, assign, transfer, and set over, unto the Assignee, its successors, legal representatives, and assigns the entire right, title, and interest in and to the above-mentioned inventions, the right to file applications on said inventions and the entire right, title and interest in and to any applications for Letters Patent of the United States or other countries claiming priority to said applications, and any and all Letters Patent or Patents of the United States of America and all foreign countries that may be granted therefore and thereon, and in and to any and all applications claiming priority to said applications, divisions, continuations, and continuations-in-part of said applications, and reissues and extensions of said Letters Patent or Patents, and all rights under the International Convention for the Protection of Industrial Property, the same to be held and enjoyed by the Assignee, for its own use and behoof and the use and behoof of its successors, legal representatives, and assigns, to the full end of the term or terms for which Letters Patent or Patents may be granted as fully and entirely as the same would have been held and enjoyed by the Assignors had this sale and assignment not been made;

AND for the same consideration, the Assignors hereby covenant and agree to and with the Assignee, its successors, legal representatives, and assigns, that, at the time of execution and delivery of these presents, the Assignors are the sole and lawful owners of the entire right, title, and interest in and to the inventions set forth in said applications and said applications, including provisional applications, above-mentioned, and that the same are unencumbered, and that the Assignors have good and full right and lawful authority to sell and convey the same in the manner herein set forth;

AND for the same consideration, the Assignors hereby covenant and agree to and with the Assignee, its successors, legal representatives, and assigns that the Assignors will, whenever counsel of the Assignee, or the counsel of its successors, legal representatives, and assigns, shall advise that any proceeding in connection with said inventions or said applications for Letters Patent or Patents, or any proceeding in connection with Letters Patent or Patents for said inventions in any country, including interference proceedings, is lawful and desirable, or that any application claiming priority to said application, division, continuation, or continuation-in-part of any applications for Letters Patent or Patents, or any reissue or extension of any Letters Patent or Patents to be obtained thereon, is lawful and desirable, sign all papers and documents, take all lawful oaths, and do all acts necessary or required to be done for the procurement, maintenance, enforcement, and defense of Letters Patent or Patents for said inventions, without charge to the Assignee, its successors, legal representatives, and assigns, but at the cost and expense of the Assignee, its successors, legal representatives, and assigns;

AND the Assignors hereby authorize and request the attorneys of Gavrilovich, Dodd & Lindsey LLP to insert in the spaces provided above the title of the invention, filing date, application number, and attorney's docket number of said application when known.

AND the Assignors hereby request the Commissioner of Patents to issue any and all said Letters Patent of the United States to the Assignee as the Assignee of said inventions, the Letters Patent to be issued for the sole use and behoof of the Assignee, its successors, legal representatives, and assigns.

| DATE 28/04/2019 | e la 1. |
|-----------------|--------------------------|
| : | Elad Mentovich |
| DATE | |
| | Dimitrios Kalavrouziotis |
| DATE | |
| | Mehdi Asghari |
| DATE | |
| | Joan Fong |
| DATE | |
| | Wei Liu |
| DATE | |
| | Wei Qian |

| | Attorney Docket No.:LT4320 |
|------|----------------------------|
| | |
| DATE | |
| | Dazeng Feng |

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PATENT REEL: 049299 FRAME: 0568

THIS ASSIGNMENT, by Elad Mentovich, residing at 13 Moshe Perlok St., Tel Aviv, Israel; Dimitrios Kalavrouziotis, residing at Efesou 12, Papagou, 15669, Greece; Mehdi Asghari, residing at 1213 Flintridge Circle, La Canada Flintridge, California 91011, United States of America; Joan Fong, residing at 2139 Melville Drive, San Marino, California 91108, United States of America; Wei Liu, residing at 1033 Crestview Dr., Unit 204, Mountain View, California 94040, United States of America; Wei Qian, residing at 1800 Oak Street, #204, Torrance, CA 90501, United States of America; Dazeng Feng, residing at 12016 Hallwood Drive, El Monte, California 91732, United States of America; (hereinafter referred to as "the Assignors"), respectively, witnesseth:

WHEREAS, the Assignors have invented certain new and useful improvements in

OPTICAL MODULATION STRUCTURE FOR USE WITH OPTICAL CHIPS set forth in an application for Letters Patent of the United States, which is a (1)provisional application (a) 🔲 bearing Application No. _____, and filed on _____; to be filed herewith; or 冈 non-provisional application (2)(a) 🛛 bearing Application No. 16/368,628, and filed on March 28, 2019; (b) having an oath or declaration executed on even date herewith prior to filing of application; (c) having an oath or declaration executed on a different date than this Assignment; and

Whereas, Mellanox Technologies Silicon Photonics Inc., a corporation having a principal place of business at 2630 Corporate Place, Monterey Park, California 91754, United States of America (hereinafter referred to as "the Assignee"), is desirous of acquiring the entire right, title, and interest in and to said inventions, the right to file applications on said inventions and the entire right, title and interest in and to any applications, including provisional applications for Letters Patent of the United States or other countries claiming priority to said application, and in and to any Letters Patent or Patents, United States or foreign, to be obtained therefore and thereon.

NOW, THEREFORE, for good and sufficient consideration, the receipt of which is hereby acknowledged, the Assignors have sold, assigned, transferred, and set over, and by these presents do sell, assign, transfer, and set over, unto the Assignee, its successors, legal representatives, and assigns the entire right, title, and interest in and to the above-mentioned inventions, the right to file applications on said inventions and the entire right, title and interest in and to any applications for Letters Patent of the United States or other countries claiming priority to said applications, and any and all Letters Patent or Patents of the United States of America and all foreign countries that may be granted therefore and thereon, and in and to any and all applications claiming priority to said applications, divisions, continuations, and continuations-in-part of said applications, and reissues and extensions of said Letters Patent or Patents, and all rights under the International Convention for the Protection of Industrial Property, the same to be held and enjoyed by the Assignee, for its own use and behoof and the use and behoof of its successors, legal representatives, and assigns, to the full end of the term or terms for which Letters Patent or Patents may be granted as fully and entirely as the same would have been held and enjoyed by the Assignors had this sale and assignment not been made;

AND for the same consideration, the Assignors hereby covenant and agree to and with the Assignee, its successors, legal representatives, and assigns, that, at the time of execution and delivery of these presents, the Assignors are the sole and lawful owners of the entire right, title, and interest in and to the inventions set forth in said applications and said applications, including provisional applications, above-mentioned, and that the same are unencumbered, and that the Assignors have good and full right and lawful authority to sell and convey the same in the manner herein set forth:

AND for the same consideration, the Assignors hereby covenant and agree to and with the Assignee, its successors, legal representatives, and assigns that the Assignors will, whenever counsel of the Assignee, or the counsel of its successors, legal representatives, and assigns, shall advise that any proceeding in connection with said inventions or said applications for Letters Patent or Patents, or any proceeding in connection with Letters Patent or Patents for said inventions in any country, including interference proceedings, is lawful and desirable, or that any application claiming priority to said application, division, continuation, or continuation-in-part of any applications for Letters Patent or Patents, or any reissue or extension of any Letters Patent or Patents to be obtained thereon, is lawful and desirable, sign all papers and documents, take all lawful oaths, and do all acts necessary or required to be done for the procurement, maintenance, enforcement, and defense of Letters Patent or Patents for said inventions, without charge to the Assignee, its successors, legal representatives, and assigns, but at the cost and expense of the Assignee, its successors, legal representatives, and assigns;

AND the Assignors hereby authorize and request the attorneys of Gavrilovich, Dodd & Lindsey LLP to insert in the spaces provided above the title of the invention, filing date, application number, and attorney's docket number of said application when known.

AND the Assignors hereby request the Commissioner of Patents to issue any and all said Letters Patent of the United States to the Assignee as the Assignee of said inventions, the Letters Patent to be issued for the sole use and behoof of the Assignee, its successors, legal representatives, and assigns.

| DATE | |
|---------------|---------------------------------------|
| | Elad Mentovich |
| DATE22/4/2019 | F |
| | Dimitrios Kalavrouziotis |
| DATE | |
| | Mehdi Asghari |
| DATE | |
| | Joan Fong |
| DATE | · · · · · · · · · · · · · · · · · · · |
| | Wei Liu |
| DATE | |
| | Wei Qian |
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| Attorney | Docket | No | 1 T4320 |
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| DATE | | |
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| | Dazeng Feng | |

THIS ASSIGNMENT, by Elad Mentovich, residing at 13 Moshe Perlok St., Tel Aviv, Israel, Dimitrios Kalavrouziotis, residing at Efesou 12, Papagou, 15669, Greece; Mehdi Asghari, residing at 1213 Flintridge Circle, La Canada Flintridge, California 91011, United States of America; Joan Fong, residing at 2139 Melville Drive, San Marino, California 91108, United States of America; Wei Liu, residing at 1033 Crestview Dr., Unit 204, Mountain View, California 94040, United States of America; Wei Qian, residing at 1800 Oak Street, #204, Torrance, CA 90501, United States of America; Dazeng Feng, residing at 12016 Hallwood Drive, El Monte, California 91732, United States of America; (hereinafter referred to as "the Assignors"), respectively, witnesseth:

WHEREAS, the Assignors have invented certain new and useful improvements in

OPTICAL MODULATION STRUCTURE FOR USE WITH OPTICAL CHIPS

set forth in an application for Letters Patent of the United States, which is a (1) provisional application (a) bearing Application No. _____, and filed on ____ (b) to be filed herewith; or (2) \boxtimes non-provisional application (a) \boxtimes bearing Application No. 16/368.628, and filed on March 28, 2019 (b) having an oath or declaration executed on even date herewith prior to filing of application: (c) having an oath or declaration executed on a different date than this

Whereas, Mellanox Technologies Silicon Photonics Inc., a corporation having a principal place of business at 2630 Corporate Place, Monterey Park, California 91754, United States of America (hereinafter referred to as "the Assignee"), is desirous of acquiring the entire right, title, and interest in and to said inventions, the right to file applications on said inventions and the entire right, title and interest in and to any applications, including provisional applications for Letters Patent of the United States or other countries claiming priority to said application, and in and to any Letters Patent or Patents, United States or foreign, to be obtained therefore and thereon.

Assignment; and

NOW, THEREFORE, for good and sufficient consideration, the receipt of which is hereby acknowledged, the Assignors have sold, assigned, transferred, and set over, and by these presents do sell, assign, transfer, and set over, unto the Assignee, its successors, legal representatives, and assigns the entire right, title, and interest in and to the above-mentioned inventions, the right to file applications on said inventions and the entire right, title and interest in and to any applications for Letters Patent of the United States or other countries claiming priority to said applications, and any and all Letters Patent or Patents of the United States of America and all foreign countries that may be granted therefore and thereon, and in and to any and all applications claiming priority to said applications, divisions, continuations, and continuations-in-part of said applications, and reissues and extensions of said Letters Patent or Patents, and all rights under the International Convention for the Protection of Industrial Property, the same to be held and enjoyed by the Assignee, for its own use and behoof and the use and behoof of its successors, legal representatives, and assigns, to the full end of the term or terms for which Letters Patent or Patents may be granted as fully and entirely as the same would have been held and enjoyed by the Assignors had this sale and assignment not been made;

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| DATE | |
|----------------|---|
| | Elad Mentovich |
| DATE | |
| DATE 4/29/2019 | Dimitrios Kalavrouziotis Model Asghari |
| DATE | Joan Fong |
| DATE | |
| | Wei Liu |
| DATE | |
| | Wei Qian |

| Attorney | Docket No | 1 TARON |
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| DATE | |
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| | |
| | Dazeng Feng |

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PATENT REEL: 049299 FRAME: 0574

THIS ASSIGNMENT, by Elad Mentovich, residing at 13 Moshe Periok St., Tel Aviv, Israel; Dimitrios Kalavrouziotis, residing at Efesou 12, Papagou, 15669, Greece; Mehdi Asghari, residing at 1213 Flintridge Circle, La Canada Flintridge, California 91011, United States of America; Joan Fong, residing at 2139 Melville Drive, San Marino, California 91108, United States of America; Wei Liu, residing at 1033 Crestview Dr., Unit 204, Mountain View, California 94040, United States of America; Wei Qian, residing at 1800 Oak Street, #204, Torrance, CA 90501, United States of America; Dazeng Feng, residing at 12016 Hallwood Drive, El Monte, California 91732, United States of America; (hereinafter referred to as "the Assignors"), respectively, witnesseth:

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OPTICAL MODULATION STRUCTURE FOR USE WITH OPTICAL CHIPS

set forth in an application for Letters Patent of the United States, which is a

| 1) | O | provisional application |
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| Tir. Store | (a) | bearing Application No, and filed on; |
| . :: | (b) | ☐ to be filed herewith; or |
| 2) | Ø | non-provisional application |
| | (a) | bearing Application No. 16/368.628, and filed on March 28, 2019 |
| | (b) | having an oath or declaration executed on even date herewith prior to filing of application; |
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Whereas, Mellanox Technologies Silicon Photonics Inc., a corporation having a principal place of business at 2630 Corporate Place, Monterey Park, California 91754, United States of America (hereinafter referred to as "the Assignee"), is desirous of acquiring the entire right, title, and interest in and to said inventions, the right to file applications on said inventions and the entire right, title and interest in and to any applications, including provisional applications for Letters Patent of the United States or other countries claiming priority to said application, and in and to any Letters Patent or Patents, United States or foreign, to be obtained therefore and thereon.

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AND for the same consideration, the Assignors hereby covenant and agree to and with the Assignee, its successors, legal representatives, and assigns, that, at the time of execution and delivery of these presents, the Assignors are the sole and lawful owners of the entire right, title, and interest in and to the inventions set forth in said applications and said applications, including provisional applications, above-mentioned, and that the same are unencumbered, and that the Assignors have good and full right and lawful authority to sell and convey the same in the manner herein set forth;

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| DATE | |
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| | Elad Mentovich |
| DATE | |
| | Dimitrios Kalavrouziotis |
| DATE | |
| | Mehdi Asghari |
| DATE 4/24/19 | 1245 |
| | Joan Forig |
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| Attorney Docket No.:LT4320 |
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| Dazeng Feng |
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PATENT REEL: 049299 FRAME: 0577

THIS ASSIGNMENT, by Elad Mentovich, residing at 13 Moshe Perlok St., Tel Aviv, Israel; Dimitrios Kalavrouziotis, residing at Efesou 12, Papagou, 15669, Greece; Mehdi Asghari, residing at 1213 Flintridge Circle, La Canada Flintridge, California 91011, United States of America; Joan Fong, residing at 2139 Melville Drive, San Marino, California 91108, United States of America; Wei Liu, residing at 1033 Crestview Dr., Unit 204, Mountain View, California 94040, United States of America; Wei Qian, residing at 1800 Oak Street, #204, Torrance, CA 90501, United States of America; Dazeng Feng, residing at 12016 Hallwood Drive, El Monte, California 91732, United States of America; (hereinafter referred to as "the Assignors"), respectively, witnesseth:

WHEREAS, the Assignors have invented certain new and useful improvements in

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| | Elad Wentovich |
| DATE | |
| | Dimitrios Kalavrouziotis |
| DATE | ** |
| | Mehdi Asghari |
| DATE | |
| | Joan Fong |
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| | Wei Liu |
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Attorney Docket No.:LT4320

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| | Dazeng Feng | - |

THIS ASSIGNMENT, by Elad Mentovich, residing at 13 Moshe Perlok St.,Tel Aviv, Israel; Dimitrios Kalavrouziotis, residing at Efesou 12, Papagou, 15669, Greece; Mehdi Asghari, residing at 1213 Flintridge Circle,La Canada Flintridge, California 91011, United States of America; Joan Fong, residing at 2139 Melville Drive, San Marino, California 91108, United States of America; Wei Liu, residing at 1033 Crestview Dr., Unit 204, Mountain View, California 94040, United States of America; Wei Qian, residing at 1800 Oak Street, #204, Torrance, CA 90501, United States of America; Dazeng Feng, residing at 12016 Hallwood Drive, El Monte, California 91732, United States of America; (hereinafter referred to as "the Assignors"), respectively, witnesseth:

WHEREAS, the Assignors have invented certain new and useful improvements in

set forth in an application for Letters Patent of the United States, which is a

OPTICAL MODULATION STRUCTURE FOR USE WITH OPTICAL CHIPS

| (1) | | provisional application |
|-----|-----|---|
| | (a) | bearing Application No, and filed on; |
| | (b) | to be filed herewith; or |
| (2) | 図 | non-provisional application |
| | (a) | bearing Application No. 16/368,628, and filed on March 28, 2019; |
| | (b) | having an oath or declaration executed on even date herewith prior filing of application; |
| | (c) | having an oath or declaration executed on a different date than this Assignment: and |

Whereas, Mellanox Technologies Silicon Photonics Inc., a corporation having a principal place of business at 2630 Corporate Place, Monterey Park, California 91754, United States of America (hereinafter referred to as "the Assignee"), is desirous of acquiring the entire right, title, and interest in and to said inventions, the right to file applications on said inventions and the entire right, title and interest in and to any applications, including provisional applications for Letters Patent of the United States or other countries claiming priority to said application, and in and to any Letters Patent or Patents, United States or foreign, to be obtained therefore and thereon.

NOW, THEREFORE, for good and sufficient consideration, the receipt of which is hereby acknowledged, the Assignors have sold, assigned, transferred, and set over, and by these presents do sell, assign, transfer, and set over, unto the Assignee, its successors, legal representatives, and assigns the entire right, title, and interest in and to the above-mentioned inventions, the right to file applications on said inventions and the entire right, title and interest in and to any applications for Letters Patent of the United States or other countries claiming priority to said applications, and any and all Letters Patent or Patents of the United States of America and all foreign countries that may be granted therefore and thereon, and in and to any and all applications claiming priority to said applications, divisions, continuations, and continuations-in-part of said applications, and reissues and extensions of said Letters Patent or Patents, and all rights under the International Convention for the Protection of Industrial Property, the same to be held and enjoyed by the Assignee, for its own use and behoof and the use and behoof of its successors, legal representatives, and assigns, to the full end of the term or terms for which Letters Patent or Patents may be granted as fully and entirely as the same would have been held and enjoyed by the Assignors had this sale and assignment not been made;

AND for the same consideration, the Assignors hereby covenant and agree to and with the Assignee, its successors, legal representatives, and assigns, that, at the time of execution and delivery of these presents, the Assignors are the sole and lawful owners of the entire right, title, and interest in and to the inventions set forth in said applications and said applications, including provisional applications, above-mentioned, and that the same are unencumbered, and that the Assignors have good and full right and lawful authority to sell and convey the same in the manner herein set forth;

AND for the same consideration, the Assignors hereby covenant and agree to and with the Assignee, its successors, legal representatives, and assigns that the Assignors will, whenever counsel of the Assignee, or the counsel of its successors, legal representatives, and assigns, shall advise that any proceeding in connection with said inventions or said applications for Letters Patent or Patents, or any proceeding in connection with Letters Patent or Patents for said inventions in any country, including interference proceedings, is lawful and desirable, or that any application claiming priority to said application, division, continuation, or continuation-in-part of any applications for Letters Patent or Patents, or any reissue or extension of any Letters Patent or Patents to be obtained thereon, is lawful and desirable, sign all papers and documents, take all lawful oaths, and do all acts necessary or required to be done for the procurement, maintenance, enforcement, and defense of Letters Patent or Patents for said inventions, without charge to the Assignee, its successors, legal representatives, and assigns, but at the cost and expense of the Assignee, its successors, legal representatives, and assigns;

AND the Assignors hereby authorize and request the attorneys of Gavrilovich, Dodd & Lindsey LLP to insert in the spaces provided above the title of the invention, filing date, application number, and attorney's docket number of said application when known.

AND the Assignors hereby request the Commissioner of Patents to issue any and all said Letters Patent of the United States to the Assignee as the Assignee of said inventions, the Letters Patent to be issued for the sole use and behoof of the Assignee, its successors, legal representatives, and assigns.

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| | Elad Mentovich | ********* |
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| | Dimitrios Kalavrouziotis | |
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| | Joan Fong | |
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Dazeng Feng

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THIS ASSIGNMENT, by Elad Mentovich, residing at 13 Moshe Perlok St., Tel Aviv, Israel; Dimitrios Kalavrouziotis, residing at Efesou 12, Papagou, 15669, Greece; Mehdi Asghari, residing at 1213 Flintridge Circle, La Canada Flintridge, California 91011, United States of America; Joan Fong, residing at 2139 Melville Drive, San Marino, California 91108, United States of America; Wei Liu, residing at 1033 Crestview Dr., Unit 204, Mountain View, California 94040, United States of America; Wei Qian, residing at 1800 Oak Street, #204, Torrance, CA 90501, United States of America; Dazeng Feng, residing at 12016 Hallwood Drive, El Monte, California 91732, United States of America; (hereinafter referred to as "the Assignors"), respectively, witnesseth:

WHEREAS, the Assignors have invented certain new and useful improvements in OPTICAL MODULATION STRUCTURE FOR USE WITH OPTICAL CHIPS

| set fo | nth in a | an application for Letters Patent of the United States, which is a |
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| (1) | | provisional application |
| | (a) | bearing Application No and filed on; |
| | (b) | ☐ to be filed herewith; or |
| (2) | Ø | non-provisional application |
| | (a) | bearing Application No. 16/368,628, and filed on March 28, 2019; |
| | (b) | having an oath or declaration executed on even date herewith prior to filing of application; |
| | (c) | having an oath or declaration executed on a different date than this Assignment; and |

Whereas, Mellanox Technologies Silicon Photonics Inc., a corporation having a principal place of business at 2630 Corporate Place, Monterey Park, California 91754, United States of America (hereinafter referred to as "the Assignee"), is desirous of acquiring the entire right, title, and interest in and to said inventions, the right to file applications on said inventions and the entire right, title and interest in and to any applications, including provisional applications for Letters Patent of the United States or other countries claiming priority to said application, and in and to any Letters Patent or Patents, United States or foreign, to be obtained therefore and thereon.

NOW, THEREFORE, for good and sufficient consideration, the receipt of which is hereby acknowledged, the Assignors have sold, assigned, transferred, and set over, and by these presents do sell, assign, transfer, and set over, unto the Assignee, its successors, legal representatives, and assigns the entire right, title, and interest in and to the above-mentioned inventions, the right to file applications on said inventions and the entire right, title and interest in and to any applications for Letters Patent of the United States or other countries claiming priority to said applications, and any and all Letters Patent or Patents of the United States of America and all foreign countries that may be granted therefore and thereon, and in and to any and all applications claiming priority to said applications, divisions, continuations, and continuations-in-part of said applications, and reissues and extensions of said Letters Patent or Patents, and all rights under the International Convention for the Protection of Industrial Property, the same to be held and enjoyed by the Assignee, for its own use and behoof and the use and behoof of its successors, legal representatives, and assigns, to the full end of the term or terms for which Letters Patent or Patents may be granted as fully and entirely as the same would have been held and enjoyed by the Assignors had this sale and assignment not been made;

AND for the same consideration, the Assignors hereby covenant and agree to and with the Assignee, its successors, legal representatives, and assigns, that, at the time of execution and delivery of these presents, the Assignors are the sole and lawful owners of the entire right, title, and interest in and to the inventions set forth in said applications and said applications, including provisional applications, above-mentioned, and that the same are unencumbered, and that the Assignors have good and full right and lawful authority to sell and convey the same in the manner herein set forth;

AND for the same consideration, the Assignors hereby covenant and agree to and with the Assignee, its successors, legal representatives, and assigns that the Assignors will, whenever counsel of the Assignee, or the counsel of its successors, legal representatives, and assigns, shall advise that any proceeding in connection with said inventions or said applications for Letters Patent or Patents, or any proceeding in connection with Letters Patent or Patents for said inventions in any country, including interference proceedings, is lawful and desirable, or that any application claiming priority to said application, division, continuation, or continuation-in-part of any applications for Letters Patent or Patents, or any reissue or extension of any Letters Patent or Patents to be obtained thereon, is lawful and desirable, sign all papers and documents, take all lawful oaths, and do all acts necessary or required to be done for the procurement, maintenance, enforcement, and defense of Letters Patent or Patents for said inventions, without charge to the Assignee, its successors, legal representatives, and assigns, but at the cost and expense of the Assignee, its successors, legal representatives, and assigns;

AND the Assignors hereby authorize and request the attorneys of Gavrilovich, Dodd & Lindsey LLP to insert in the spaces provided above the title of the invention, filing date, application number, and attorney's docket number of said application when known.

AND the Assignors hereby request the Commissioner of Patents to issue any and all said Letters Patent of the United States to the Assignee as the Assignee of said inventions, the Letters Patent to be issued for the sole use and behoof of the Assignee, its successors, legal representatives, and assigns.

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| | Elad Mentovich |
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| | Dimitrios Kalavrouziotis |
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| | Mehdi Asghari |
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| | Joan Fong |
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| | Wei Llu |
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| | Wei Qian |

Attorney Docket No.:LT4320

DATE 5/3/2019

Dazeng Feng

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PATENT REEL: 049299 FRAME: 0586

RECORDED: 05/28/2019