## I. Introduction

Applicant has applied to register the mark ERGO for "semiconductors; semiconductor chips; semiconductor chip sets for use in neural networks; microprocessors" in Class 9 and "design and development of semiconductors, semiconductor chips, semiconductor chip sets for use in neural networks, microprocessors" in International Class 42.

In the Office Action dated September 20, 2018, the Examining Attorney refused registration of Applicant's Mark under § 2(d) of the Trademark Act, based on a purported likelihood of confusion with the mark ERGO of U.S. Reg. No. 2,696,778 (the "Cited Registration" or "Cited Mark"), registered in the name of Lumentum Switzerland AG ("Registrant"). However, Applicant's ERGO Mark is not likely to be confused with the Cited Mark, because Applicant's semiconductor products and related services are not commercially related to the Registrant's laser products, as discussed below. As such, the present § 2(d) refusal is improper and should be withdrawn.

The Examining Attorney has also issued a request for information regarding Applicant's goods and services, and Applicant has fully responded to the request for information below.

## II. There Is No Likelihood of Confusion Because Applicant's and Registrant's Goods are Not Commercially Related

The § 2(d) refusal in this case is premised upon the faulty assumption that Applicant's semiconductor products are somehow commercially related to the Registrant's laser products. However, that presumption is erroneous and there is no evidence in the record to support it.

The Registrant's goods are lasers and laser systems, together with optical components for lasers. Applicant's goods are semiconductors, semiconductor chips, and microprocessors. Applicant's goods are very different in form and function from the Registrant's laser products, travel in different trade channels, and are likely to be purchased and used by different classes of users. The mere fact that both Applicant's and Registrant's identification of goods use the term "semiconductor" is irrelevant, inasmuch as the only connection between Applicant's semiconductor products and the Registrant's laser products is the fact that both types of products utilize the same general class of physical materials (semiconductor materials) as ingredients or components in their manufacture. However, this does not establish that there is a commercial relationship between those goods for purposes of determining whether confusion is likely. As such, the § 2(d) refusal is improper and must be withdrawn.

At the outset, Applicant notes that the Examining Attorney has misconstrued the nature of the Registrant's goods by considering certain wording in the Registrant's identification of goods in isolation and removed from its proper context. Specifically, the Examining Attorney erroneously states in the Office Action that:

> The goods in U.S. Registration No. 2696778 include: 1) semiconductor lasers, 2) optical components and elements, namely, thin semiconductor, and 3) layer [sic] systems comprising optically thin semiconductor.

Applicant agrees that the Registrant's goods include "semiconductor lasers" – although as discussed further below semiconductor lasers are a different category of electronic products that are not commercially related to Applicant's semiconductor products. However, items (2) and (3) listed above are incomplete and inaccurate descriptions taken out of the full context of Registrant's identification of goods.

Registrant's full identification of goods reads as follows (with the relevant portions ***highlighted*** for clarity):

> Lasers not for medical use, namely, pulsed lasers, semiconductor lasers, solid-state lasers, optically-pumped pulse-generating lasers, and optically-pumped external cavity pulse-generating lasers; accessories for lasers not for medical use, namely, gain media, saturable absorbers, laser mirrors, laser resonators, pump diodes, electronic control apparatus for lasers, power supplies for lasers and for laser accessories, and housings for lasers and for laser accessories; ***(2) optical components and elements, namely,*** lenses, prisms, beam splitters, planar optical elements, namely, optical windows, optical flats, optical wedges, brewster plates, reticles, and diffusing plates, mirrors or reflectors, mirror layers, ***thin semiconductor, dielectric or organic films for use with lasers and accessories for lasers***, ***(3) layer [sic][1] systems comprising optically thin semiconductor, dielectric or organic layers and substrates for reflecting, absorbing or transmitting light for use with lasers and accessories for lasers***, filters, gratings, polarizers, and phase plates; optomechanical components and elements, namely, mountings and supports, stops, and shutters; optical fibers, optical cables, and optical fiber networks; components, elements, accessories and modules for optical fibers, optical cables and optical fiber networks

Thus, the complete recitation of item (2) noted above is "***optical components and elements, namely . . . thin semiconductor, dielectric or organic films for use with lasers and accessories for lasers***." Similarly, the complete recitation of item (3) noted above is "***layer [sic] systems comprising optically thin semiconductor . . . layers and substrates for reflecting, absorbing or transmitting light for use with lasers and accessories for lasers.***" The wording "thin semiconductor" as used in these descriptions is not a "thing" – i.e., it does not comprise the name of a class or type of goods. Rather, "thin semiconductor" in this context is merely an adjective which describes certain optical components of Registrant's laser systems in the nature of films, layers and substrates. The terms "thin" and "semiconductor" in this context both describe physical properties of the optical component materials – namely, that they are of minimal thickness and that they have a particular degree of electrical conductivity.

In order to further illustrate the lack of any commercial relationship between Applicant's semiconductor products and the Registrant's laser products, a brief overview of the nature and function of Applicant's and Registrant's respective products is warranted.

[1] Applicant presumes from the context that this instance of the term "layer" is a typographical error and was intended to read "laser".

The term "semiconductor" refers to a material which has an electrical conductivity value falling between that of a conductor, such as metallic copper, and an insulator, such as glass.[2] Its resistance decreases as its temperature increases, which is behavior opposite to that of a metal. Its conducting properties may be altered in useful ways by the deliberate, controlled introduction of impurities ("doping") into the crystal structure. Where two differently-doped regions exist in the same crystal, a semiconductor junction is created. The behavior of charge carriers which include electrons, ions and electron holes at these junctions is the basis of diodes, transistors and all modern electronics.[3]

The term "semiconductor" is also sometimes used as shorthand for "semiconductor device",[4] which refers to an electronic component that exploits the electronic properties of semiconductor material.[5] Semiconductor devices such as transistors are then combined into integrated circuits or chips, which are used in used in virtually all electronic equipment including computers, mobile phones, and other digital home appliances.[6]

Thus, Applicant's goods – "semiconductors; semiconductor chips; semiconductor chip sets for use in neural networks; microprocessors" – comprise basic components used in the manufacture of electronic equipment.

A "semiconductor laser", also known as a laser diode, is a device similar to a light-emitting diode in which a laser beam is created at the diode's junction.[7] Semiconductor lasers are the most common type of lasers produced, with a wide range of uses that include fiber optic communications, barcode readers, laser pointers, CD/DVD/Blu-ray disc reading/recording, laser printing, laser scanning and light beam illumination.[8]

Thus, unlike Applicant's semiconductor products which are used as components in the manufacture of other electronic products, the Registrant's semiconductor lasers are finished electronic products which utilize semiconductor materials within optical components of the lasers. The mere fact that both Applicant's and Registrant's products may utilize the same general class of physical materials (semiconductor materials) as ingredients or components does not establish a relationship between them for trademark purposes – just as automobiles and washing machines are not commercially related simply because they both include metals as ingredients or components.

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[2] See Exhibit A, Wikipedia entry for "semiconductor", available at https://en.wikipedia.org/wiki/Semiconductor.
[3] Id.
[4] See Exhibit B, definition for "semiconductor" from Dictionary.com, available at https://www.dictionary.com/browse/semiconductor.
[5] See Exhibit C, Wikipedia entry for "semiconductor device", available at https://en.wikipedia.org/wiki/Semiconductor_device.
[6] See Exhibit D, Wikipedia entry for "integrated circuit", available at https://en.wikipedia.org/wiki/Integrated_circuit.
[7] See Exhibit E, Wikipedia entry for "laser diode", available at https://en.wikipedia.org/wiki/Laser_diode, and definition for "semiconductor laser" from YourDictionary.com, available at https://www.yourdictionary.com/semiconductor-laser.
[8] Id.

There is no commercial relationship between Applicant's semiconductor products and the Registrant's laser products that would support the § 2(d) refusal in this case. The Registrant's goods are ***not*** semiconductors as the Examining Attorney suggests – they are lasers and optical components for lasers which may happen to use semiconductor materials as components. Semiconductors and lasers are very different in form and function, as discussed above. A customer seeking to purchase Applicant's semiconductor devices for use in manufacturing electronic products would not seek out or encounter lasers, and vice versa.

Moreover, the Examining Attorney has not identified any evidence showing that there is any commercial relationship between Applicant's semiconductor products and the Registrant's laser products. The absence of such evidence further demonstrates the lack of any commercial relationship between Applicant's and Registrant's respective goods.

Accordingly, it is clear that Applicant's and the Registrant's respective goods are entirely different in form and function, travel in different trade channels, and are likely to be encountered by very different classes of purchasers. As such, the registration of Applicant's ERGO Mark would be unlikely to result in confusion with the Cited Mark.

## III. Response to Request for Information

Applicant responds to the Examining Attorney's request for information regarding Applicant's goods and services as follows:

**(1) The prospective customers for Applicant's goods and services.**

The prospective customers for Applicant's goods and services are manufacturers of consumer electronics products (e.g., mobile devices, wearable devices, security cameras, etc.) and industrial equipment (e.g., robots, sensors, etc.).

**(2) The intended channels of trade for Applicant's goods and services.**

Applicant intends to sell its goods and services directly to manufacturers of consumer electronics products and industrial equipment.

**(3) Whether Applicant's goods will be used in connection or can be adapted for use with semiconductor lasers.**

Applicant's semiconductor products are not intended to be used in connection or adapted for use with lasers.

**(4) Whether Applicant's goods will be able to be used or can be adapted for use with thin semiconductors or optically thin semiconductors.**

As noted above, "thin semiconductor(s)" and "optically thin semiconductor(s)" are not a type of good – this wording is used in the Registrant's identification of goods as an adjective to describe certain components of Registrant's laser products, e.g., "*optical components and elements, namely . . . thin semiconductor, dielectric or*

*organic films*" and "*optically thin semiconductor, dielectric or organic layers and substrates for reflecting, absorbing or transmitting light for use with lasers and accessories for lasers*", respectively. To the extent that this request for information inquires as to whether Applicant's goods will be able to be used or can be adapted for use with either "*optical components and elements, namely, thin semiconductor films*" or "*optically thin semiconductor layers and substrates for reflecting, absorbing or transmitting light for use with lasers and accessories for lasers*," Applicant responds that its semiconductor products are not intended to be used or adapted for use with such goods.

**(5) Whether Applicant's neural networks in which Applicant's semiconductor chip sets will be used can be used or can be adapted for use with lasers or have any application related to lasers.**

To Applicant's knowledge, the neural networks in which Applicant's semiconductor chip set products will be used are not intended to be used or adapted for use with lasers or have any application related to lasers.

**(6) Whether Applicant's design and development of semiconductors will include semiconductor lasers, thin semiconductors, or optically thin semiconductors.**

Applicant's design and development of semiconductors will not include or involve semiconductor lasers, which as noted above are an entirely different class of product which is different in form, function and application. Further, as discussed above, "thin semiconductor(s)" and "optically thin semiconductor(s)" are not a type of good. To the extent that this request for information inquires as to whether Applicant's design and development of semiconductors includes or involves either "*optical components and elements, namely, thin semiconductor films*" or "*optically thin semiconductor layers and substrates for reflecting, absorbing or transmitting light for use with lasers and accessories for lasers*," Applicant responds that its design and development of semiconductors will not include or involve such goods.

## III. Conclusion

In light of the foregoing, Applicant respectfully submits that all of the bases for the refusal to register its ERGO mark have been overcome, and this application is now in condition for allowance. Accordingly, Applicant respectfully requests that the Examining Attorney withdraw the refusal to register Applicant's mark and approve this application for publication.

Should anything further be required, a telephone call to the undersigned at (312) 456-8400 is respectfully invited.