

PATENT ASSIGNMENT COVER SHEET

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| SUBMISSION TYPE: | NEW ASSIGNMENT |
| NATURE OF CONVEYANCE: | ASSIGNMENT |
| CONVEYING PARTY DATA | |
| Name | Execution Date |
| YASUSHI KAMIYA | 01/10/2017 |
| HIROSHI AKASAKA | 12/27/2016 |
| KIYOTAKA SAKAMOTO | 12/27/2016 |
| RECEIVING PARTY DATA | |
| Name: | CANON ANELVA CORPORATION |
| Street Address: | 2-5-1, KURIGI, ASAO-KU |
| City: | KAWASAKI-SHI, KANAGAWA |
| State/Country: | JAPAN |
| Postal Code: | 215-8550 |
| PROPERTY NUMBERS Total: 1 | |
| Property Type | Number |
| Application Number: | 15366732 |
| CORRESPONDENCE DATA | |
| Fax Number: | (212)218-2200 |
| <i>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.</i> | |
| Phone: | 2122182100 |
| Email: | jokun@fchs.com |
| Correspondent Name: | JASON M. OKUN |
| Address Line 1: | FITZPATRICK, CELLA, HARPER & SCINTO |
| Address Line 2: | 1290 AVENUE OF THE AMERICAS |
| Address Line 4: | NEW YORK, NEW YORK 10104-3800 |
| ATTORNEY DOCKET NUMBER: | 03594.017300. |
| NAME OF SUBMITTER: | JASON M. OKUN |
| SIGNATURE: | /Jason M. Okun/ |
| DATE SIGNED: | 01/12/2017 |
| Total Attachments: 3 | |
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| source=DeclarationAssignment03594017300#page3.tif | |

**COMBINED DECLARATION AND ASSIGNMENT
FOR PATENT APPLICATION**

(page 1)

Title of Invention: ION BEAM ETCHING METHOD AND ION BEAM ETCHING APPARATUS

As a or the below named inventor, I hereby declare that:

This declaration is directed to:

- The attached application, or
- United States application or PCT international application number

15/366.732filed on December 1, 2016

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

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

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than (5) years, or both.

COMBINED DECLARATION AND ASSIGNMENT
FOR PATENT APPLICATION
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FOR VALUE RECEIVED, WE

Yasushi KAMIYA
Hiroshi AKASAKA
Kiyotaka SAKAMOTO

hereby sell, assign, transfer and convey unto CANON ANELVA CORPORATION

a corporation of Japan

having a place of business at 2-5-1, Kurigi, Asao-ku, Kawasaki-shi, Kanagawa 215-8550, Japan

its successors, assigns and legal representatives (hereinafter called the "Assignee"), the entire right, title and interest, for the United States, in and to certain inventions relating to ION BEAM ETCHING METHOD AND ION BEAM ETCHING APPARATUS

and described in an application for Letters Patent of the United States filed by us on December 1, 2016 and which has been accorded Application No. 15/366,732 and in and to said application, and all divisions, renewals and continuations thereof, and all Letters Patent of the United States which may be granted, thereon, and all reissues and extensions thereof; and we hereby authorize and request the Commissioner for Patents and Trademarks of the United States to issue all Letters Patent upon said inventions to the Assignee or to such nominees as it may designate.

AND we authorize and empower the said Assignee or nominees to invoke and claim for any application for patent or other form of protection for said inventions, the benefit of the right of priority provided by the International Convention for the Protection of Industrial Property, as amended, or by any convention which may henceforth be substituted for it, and to invoke and claim such right of priority without further written or oral authorization from us.

AND we hereby consent that a copy of this assignment shall be deemed a full legal and formal equivalent of any assignment, consent to file or like document which may be required in the United States for any purpose and more particularly in proof of the right of said Assignee or nominees to claim the aforesaid benefit of the right of priority provided by the International Convention for the Protection of Industrial Property, as amended, or by any convention which may henceforth be substituted for it.

AND we hereby covenant that we have the full right to convey the entire right, title and interest herein assigned and that we have not executed and will not execute any agreement in conflict herewith.

AND we hereby covenant and agree that we will communicate to said Assignee or nominees all facts known to us pertaining to said inventions, and testify in all legal proceedings, sign all lawful papers, execute all divisional, continuing and reissue applications, make all rightful oaths and declarations and in general perform all lawful acts necessary or proper to aid said Assignee or nominees in obtaining, maintaining and enforcing all lawful patent protection for said inventions in the United States.

IN TESTIMONY WHEREOF, We hereunto set our hand:

COMBINED DECLARATION AND ASSIGNMENT
FOR PATENT APPLICATION

(page 3)

Full Name of Sole or First Inventor Yasushi KAMIYAInventor's signature Yasushi KamiyaDate Jan. 10, 2017Full Name of Second Joint Inventor Hiroshi AKASAKAInventor's signature Hiroshi AKASAKADate Dec. 27, 2016Full Name of Third Joint Inventor Kiyotaka SAKAMOTOInventor's signature Kiyotaka SakamotoDate Dec. 27, 2016