PATENT ASSIGNMENT COVER SHEET

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

CONVEYING PARTY DATA

| Name | Execution Date |
|-----------------|----------------|
| HIROSHI MAKINO | 11/25/2014 |
| HIDEYUKI KAZUMI | 11/13/2014 |
| MINORU YAMAZAKI | 11/13/2014 |
| YUZURU MIZUHARA | 11/13/2014 |
| MIKI ISAWA | 11/15/2014 |

RECEIVING PARTY DATA

| Name: | HITACHI HIGH-TECHNOLOGIES CORPORATION | |
|-----------------|---|--|
| Street Address: | 24-14 NISHISHIMBASHI 1-CHOME, MINATO-KU | |
| City: | TOKYO | |
| State/Country: | JAPAN | |
| Postal Code: | 105-8717 | |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 14410999 |

CORRESPONDENCE DATA

Fax Number: (202)756-8087

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: 202-756-8000

Email: ipdocketmwe@mwe.com

Correspondent Name: MCDERMOTT WILL & EMERY LLP
Address Line 1: THE MCDERMOTT BUILDING
Address Line 2: 500 NORTH CAPITOL STREET, N.W.

Address Line 4: WASHINGTON, D.C. 20001

| ATTORNEY DOCKET NUMBER: | 062807-0817 |
|-------------------------|-----------------|
| NAME OF SUBMITTER: | TOMOKI TANIDA |
| SIGNATURE: | /Tomoki Tanida/ |
| DATE SIGNED: | 12/23/2014 |

Total Attachments: 1

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503114631 PATENT REEL: 034579 FRAME: 0950

ASSIGNMENT

(譲渡証)

As a below named inventor, I hereby declare that:

IN CONSIDERATION of the sum of One Dollar (\$1.00) or the equivalent thereof, and other good and valuable consideration paid to me citizen of Japan by HITACHI HIGH-TECHNOLOGIES CORPORATION, a corporation organized under the laws of Japan, located at 24-14, Nishi Shimbashi 1-chome, Minato-ku, Tokyo, Japan, receipt of which is hereby acknowledged I do hereby sell and assign to said HITACHI HIGH-TECHNOLOGIES CORPORATION, its successors and assigns, all my right, title and interest, in and for the United States of America, in and to

CHARGED PARTICLE BEAM DEVICE

* PCT International Application Number PCT/JP2013/065910 filed on June 10, 2013 invented by me (if only one is named below) or us (if plural inventors are named below) and described in the application for United States Letters Patent therefor, executed on even date herewith, and all United States Letters Patent which may be granted therefor, and all divisions, continuations and extensions thereof, the said interest being the entire ownership of the said Letters Patent when granted, to be held and enjoyed by said HITACHI HIGH-TECHNOLOGIES CORPORATION, its successors, assigns or other legal representatives, to the full end of term for which said Letters Patent may be granted, as fully and entirely as the same would have been held and enjoyed by me or us if this assignment and sale had not been made;

And I hereby agree to sign and execute any further documents or instruments which may be necessary, lawful, and proper in the prosecution of the above-named application or in the preparation and prosecution of any continuing, continuation-in-part, substitute, divisional, renewal, reviewed or reissue applications or in any amendment, extension, or interference proceedings, or otherwise to secure the title thereto in said assignee;

And I do hereby authorize and request the Commissioner of Patents to issue said Letters Patent to said HITACHI HIGH-TECHNOLOGIES CORPORATION.

Signed on the date(s) indicated aside signatures:

| | INVENTOR(S) (発明者フルネームサイン) | Date Signed (署名日) |
|-----|------------------------------------|----------------------|
| 1) | Hiroshi Makino | 11/25/2014 |
| 2) | Hiroshi MAKINO Hideyuki Kayumi | 11/13/2014 |
| 3) | Hideyuki KAZUMI Minoru Yamisaki | 11 / 13 / 2014 |
| 4) | Minoru YAMAZAKI Yuzwu Miyuhara | 11/13/2014 |
| 5) | Yuzuru MIZUHARA Mikli Isama | 11/15/2014 |
| 6) | Miki ISAWA | |
| , | | |
| 7) | | |
| 8) | | |
| 9) | | |
| 10) | | |

PATENT REEL: 034579 FRAME: 0951

RECORDED: 12/23/2014