Paper 13

Entered: November 30, 2015

# UNITED STATES PATENT AND TRADEMARK OFFICE

### BEFORE THE PATENT TRIAL AND APPEAL BOARD

\_\_\_\_\_

ASML NETHERLANDS B.V., EXCELITAS TECHNOLOGIES CORP., and QIOPTIQ PHOTONICS GMBH & CO. KG, Petitioner,

v.

ENERGETIQ TECHNOLOGY, INC., Patent Owner.

\_\_\_\_

Case IPR2015-01375 Patent 9,048,000 B2

\_\_\_\_

Before SALLY C. MEDLEY, JONI Y. CHANG, and BARBARA A. PARVIS, *Administrative Patent Judges*.

CHANG, Administrative Patent Judge.

DECISION
Institution of *Inter Partes* Review
37 C.F.R. § 42.108



### I. INTRODUCTION

ASML Netherlands B.V., Excelitas Technologies Corp., and Qioptiq Photonics GmbH & Co. KG (collectively, "Petitioner") filed a Petition requesting an *inter partes* review of claims 1, 15, and 18 of U.S. Patent No. 9,048,000 B2 (Ex. 1001, "the '000 patent"). Paper 4 ("Pet."). Energetiq Technology, Inc. ("Patent Owner") filed a Preliminary Response. Paper 10 ("Prelim. Resp."). We have jurisdiction under 35 U.S.C. § 314(a).

For the reasons set forth below, we institute an *inter partes* review as to claims 1, 15, and 18 of the '000 patent.

### A. Related Matter

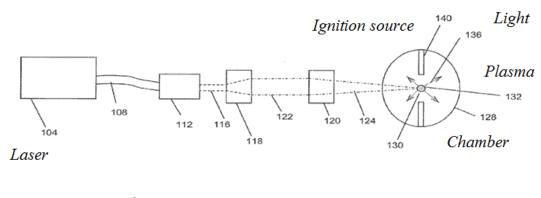
The parties indicate that the '000 patent is asserted in *Energetiq Technology, Inc. v. ASML Netherlands B.V.*, No. 1:15-cv-10240-LTS (D. Mass.), and identify related proceedings. Pet. 1; Paper 11, 2–3.

### B. The '000 Patent

The '000 patent claims under 35 U.S.C. § 120, through a series of continuation and continuation-in-part applications, the benefit of the filing date of an application filed March 31, 2006. Ex. 1001, at [63]; Ex. 1002. The '000 patent discloses a light source comprising a laser that ionizes a gas within a chamber to produce a plasma-generated light. *Id.* at Abs. According to the '000 patent, such a light source can be used as a source of illumination in a semiconductor photolithographic system. *Id.* at 1:27–37.



Figure 1 of the '000 patent illustrates a block diagram of a light source, and is reproduced below with annotations added.



Light source

As shown in annotated Figure 1, light source 100 includes laser 104, chamber 128, and ignition source 140. *Id.* at 14:40–16:5. Laser 104 outputs laser beam 116 via fiber optic element 108. *Id.* Collimator 112 directs the laser beam to beam expander 118, which produces laser beam 122 and directs it to optical lens 120. *Id.* Optical lens 120 focuses the beam to produce smaller diameter laser beam 124 and directs it to region 130, where plasma 132 is generated along with emitting light 136. *Id.* 

### C. Illustrative Claim

Claims 1 and 15 are independent, and claim 18 depends directly from claim 1, which is reproduced below.

1. A method for illuminating features of a semiconductor wafer, comprising:

ionizing a gas within a sealed pressurized plasma chamber having an operating pressure of at least 10 atmospheres;

providing substantially continuous laser energy having a



wavelength range of up to about 2000 nm through a region of material of the sealed pressurized chamber that is transparent to the substantially continuous laser energy to the ionized gas to sustain a plasma within the sealed pressurized plasma chamber to produce plasma generated *light having wavelengths greater than 50 nm*; and

illuminating the wafer with plasma-generated light having wavelengths greater than 50 nm that exits the sealed pressurized chamber.

Ex. 1001, 48:45–59 (emphases added).

### D. Prior Art Relied Upon

Petitioner relies upon the following prior art references<sup>1</sup>:

Gärtner	FR 2554302 A1	May 3, 1985	(Ex. 1004)
Kensuke	JP 2006010675 A	Jan. 12, 2006	(Ex. 1005)
Mourou	WO 2004/097520 A2	Nov. 11, 2004	(Ex. 1014)

WILLIAM T. SILFVAST, LASER FUNDAMENTALS 1–6, 199–222, 565–68 (2d ed. 2004). Ex. 1006 ("Silfvast").



<sup>&</sup>lt;sup>1</sup> The citations to Gärtner and Kensuke in this Decision are to their certified English-language translations in Exhibits 1004 and 1005, respectively.

# E. Asserted Grounds of Unpatentability

Petitioner asserts the following grounds (Pet. 18, 42):

Claims	Basis	References
1, 15, and 18	§ 103(a)	Gärtner in view of Mourou and Silfvast <sup>2</sup>
1, 15, and 18	§ 103(a)	Gärtner in view of Kensuke and Silfvast

### II. ANALYSIS

### A. Claim Construction

In an *inter partes* review, claim terms in an unexpired patent are given their broadest reasonable construction in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b); *In re Cuozzo Speed Techs.*, *LLC*, 793 F.3d 1268, 1275–79 (Fed. Cir. 2015). Here, Petitioner proposes construction for "light," which is recited in all of the challenged claims. Pet. 8–11. At this juncture, Patent Owner does not challenge Petitioner's proposed construction. *See generally* Prelim. Resp.

Upon review of the present record, we determine that Petitioner's construction is consistent with the broadest reasonable construction. For purposes of this Decision, we adopt the following claim construction:



\_\_\_

<sup>&</sup>lt;sup>2</sup> Silfvast is omitted inadvertently from each statement of the asserted grounds, although discussed in the Petitioner's analysis. Pet. 14–18, 26–39, 45–54. Therefore, we treat the statements of the asserted grounds as mere harmless error and presume that Petitioner intended to assert that the challenged claims are unpatentable based, in part, on Silfvast.

# DOCKET

# Explore Litigation Insights



Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

# **Real-Time Litigation Alerts**



Keep your litigation team up-to-date with **real-time** alerts and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

# **Advanced Docket Research**



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

# **Analytics At Your Fingertips**



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

### API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

#### **LAW FIRMS**

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

#### **FINANCIAL INSTITUTIONS**

Litigation and bankruptcy checks for companies and debtors.

## **E-DISCOVERY AND LEGAL VENDORS**

Sync your system to PACER to automate legal marketing.

