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#### 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 IPR2015-01368 Patent 8,525,138 B2

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

MEDLEY, Administrative Patent Judge.

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

#### I. INTRODUCTION

Petitioner, ASML Netherlands B.V., Excelitas Technologies Corp., and Qioptiq Photonics GmbH & Co. KG, filed a Petition requesting an *inter partes* review of claims 1–5 of U.S. Patent No. 8,525,138 B2 (Ex. 1001, "the '138 patent"). Paper 4 ("Pet."). Patent Owner, Energetiq Technology, Inc. IPR2015-01368 Patent 8,525,138 B2

did not file a Preliminary Response. We have jurisdiction under 35 U.S.C. § 314, which provides that an *inter partes* review may not be instituted "unless . . . the information presented in the petition . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition."

For the reasons that follow, we institute an *inter partes* review of claims 1–5 of the '138 patent.

#### A. Related Proceeding

The '138 patent is involved in the following lawsuit: *Energetiq Tech., Inc. v. ASML Netherlands B.V., et al.*, No. 1:15-cv-10240-LTS (D. Mass.). Pet. 1.

#### B. The '138 Patent

The '138 patent relates to a method and apparatus for producing light. Ex. 1001, Abstract. The apparatus includes a chamber and an ignition source that ionizes a gas within the chamber. *Id.* A laser provides energy to the ionized gas within the chamber to produce a high brightness light. *Id.* The laser may be tuned to a wavelength near a strong absorption line of the excited gas within the chamber. *Id.* at 34:8–30. The laser can provide a substantially continuous amount of energy to the ionized gas to generate a substantially continuous high brightness light. *Id.* at Abstract. IPR2015-01368 Patent 8,525,138 B2

#### C. Illustrative Claim

Claims 2–5 directly depend from claim 1. Claim 1 is reproduced below.

1. A light source comprising:

a pressurized chamber having a gas disposed therein;

an ignition source comprising electrodes for exciting the gas, the excited gas having at least one strong absorption line at an infrared wavelength;

at least one laser configured to provide energy to the excited gas at a wavelength within 10 nm of a strong absorption line of the excited gas within the chamber to sustain a plasma and produce at least substantially continuous, plasma-generated light.

Ex. 1001, 48:36–45.

#### D. Asserted Grounds of Unpatentability

Petitioner asserts that claims 1–5 are unpatentable based on the following grounds:

References	Basis	Challenged Claims
Gärtner <sup>1</sup> and Beterov <sup>2</sup>	§ 103(a)	1–5
Gärtner and Wolfram <sup>3</sup>	§ 103(a)	1–5

#### II. ANALYSIS

#### A. Claim Interpretation

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); *see also In re Cuozzo Speed Techs., LLC*, 793 F.3d 1268, 1277–1279 (Fed. Cir. 2015) ("Congress implicitly approved the broadest reasonable interpretation standard in enacting the AIA,"<sup>4</sup> and "the standard was properly adopted by PTO regulation."). Under the broadest reasonable construction standard, claim terms are given their ordinary and customary meaning, as would be understood by one of ordinary skill in the art in the context of the entire disclosure. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007).

<sup>&</sup>lt;sup>1</sup> French Patent Publication No. FR2554302A1, published May 3, 1985 (Ex. 1004) ("Gärtner").

<sup>&</sup>lt;sup>2</sup> I.M. Beterov et al., *Resonance Radiation Plasma (Photoresonance Plasma)*, SOV. PHYS. USP. 31(6), 535 (1988) (Ex. 1006) ("Beterov").
<sup>3</sup> U.S. Patent No. 4,901,330, issued Feb. 13, 1990 (Ex. 1017) ("Wolfram").
<sup>4</sup> Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) ("AIA").

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Petitioner proposes a construction for the claim term "light source" recited in all of the challenged claims. Pet. 11–13.

We have reviewed Petitioner's proposed construction and determine that it is consistent with the broadest reasonable construction. For purposes of this Decision, we construe "light source" to mean "a source of electromagnetic radiation in the ultraviolet ("UV"), extreme UV, vacuum UV, visible, near infrared, middle infrared, or far infrared regions of the spectrum, having wavelengths within the range of 10 nm to 1,000  $\mu$ m."

#### B. Principles of Law

A patent claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) objective evidence of nonobviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

In that regard, an obviousness analysis "need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ." *KSR*, 550 U.S. at 418; *see Translogic*, 504 F.3d at 1259. A prima facie case of obviousness is established when the prior art itself would appear to have suggested the

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