

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,
Petitioners

v.

ENERGETIQ TECHNOLOGY, INC.,
Patent Owner

Case IPR2015-01375
U.S. Patent No. 9,048,000

**PATENT OWNER'S PRELIMINARY RESPONSE
UNDER 37 C.F.R. § 42.107**

TABLE OF CONTENTS

	Page No.
I. INTRODUCTION	1
II. BACKGROUND	2
A. Overview of the '000 Patent	2
III. THE PETITION FAILS TO MEET PETITIONER'S BURDEN TO SHOW A REASONABLE LIKELIHOOD OF SUCCESS ON ITS INVALIDITY GROUNDS	4
A. Legal Standards	5
B. The Petition fails to demonstrate that the challenged claims are obvious based on Gärtner in view of Mourou	7
1. Background on Gärtner	7
2. Background on Mourou	9
3. Gärtner fails to render claims 1, 15, and 18 obvious in view of Mourou (Ground 1)	10
i. Gärtner's shortcomings	10
a. Gärtner fails to disclose providing laser energy having a wavelength range of up to about 2000 nm	10
b. Gärtner fails to disclose an operating pressure of at least 10 atmospheres	10
ii. Mourou fails to remedy Gärtner's deficiencies	12
iii. There is no motivation to combine because Mourou is directed to different underlying technology for generating EUV radiation	12
a. Mourou's pulsed laser generates EUV plasma, which would have been too hot to serve as an alternative for Gärtner's laser	13
b. Mourou's pulsed laser provides too much power to sustain the plasma in Gärtner	14
c. Mourou's pulsed laser generates EUV radiation in water droplets and not a gas as in Gärtner	14
iv. Replacing Gärtner's laser with Mourou's laser would be expected to change Gärtner's principle of operation by changing the wavelength of the radiation produced	16

a.	Citing Mourou’s laser wavelength and ignoring the generated EUV radiation fails to consider Mourou in its entirety	20
v.	One skilled in the art would not have been motivated to replace Gärtner’s laser with Mourou’s laser due to differences between pulsed lasers and cw lasers	22
a.	Lasers cannot readily be converted from a pulsed operation to a continuous wave	22
1)	Petitioner is mischaracterizing Silfvast.....	23
b.	Gärtner also fails to motivate one to operate Mourou’s pulsed laser to produce continuous laser energy	25
vi.	The cited prior art teaches away from the proposed combination by discouraging shorter wavelengths	26
a.	Shorter wavelengths were contrary to the understood inverse bremsstrahlung absorption mechanism of plasma generation	27
b.	Cross discourages use of shorter wavelength lasers	28
c.	Keefer also discourages use of shorter wavelength lasers	29
d.	Cremers discourages use of shorter wavelength lasers	30
vii.	The Petition is based on impermissible hindsight.....	32
a.	Petitioner improperly cites the ’000 Patent to justify proposed modifications	32
viii.	The Petition fails to prove requirements for “obvious to try”	38
a.	Petitioner fails to show a need or pressure to solve a problem.....	38
b.	Petitioner fails to show a finite number of identified, predictable solutions.....	39
c.	Petitioner also fails to show a skilled person would have had “good reason to pursue” shorter wavelengths as “known options” within their technical grasp.....	41
C.	The Petition also fails to demonstrate that the challenged claims are obvious based on Gärtner in view of Kensuke.....	42
1.	Background on Kensuke	42
2.	Gärtner fails to render claims 1, 15, and 18 obvious in view of Kensuke (Ground 2).....	43

i.	Replacing Gärtner’s laser with Kensuke’s laser would be expected to change the principle of operation of Gärtner by changing the wavelength of the radiation produced.....	43
ii.	One skilled in the art would not have been motivated to replace Gärtner’s laser with Kensuke’s laser due to differences between pulsed lasers and cw lasers	44
a.	Lasers cannot simply be converted from a pulsed laser to a continuous wave laser	44
b.	Gärtner also fails to motivate one to operate Kensuke’s pulsed laser to produce continuous laser energy	45
iii.	The prior art teaches away from using shorter wavelengths.....	46
iv.	The Petition fails to prove requirements for “obvious to try”	48
a.	Petitioner fails to show a need or pressure to solve a problem.....	48
b.	Petitioner fails to show a finite number of identified, predictable solutions.....	49
c.	Petitioner also fails to show a skilled person would have had “good reason to pursue” shorter wavelengths as “known options” within their technical grasp.....	51
v.	Petition improperly relies on the ’000 Patent for its motivation to combine, which uses impermissible hindsight.....	53
IV.	THE PETITION PRESENTS REDUNDANT GROUNDS OF REJECTION.....	56
V.	REQUEST FOR CORRECTION OF PATENT OFFICE TYPOGRAPHICAL PRINTING ERROR IN ISSUED CLAIM 25.....	58
VI.	CONCLUSIONS	59

I. INTRODUCTION

Pursuant to § 42.107, Patent Owner Energetiq Technology, Inc. (“Energetiq” or “Patent Owner”) hereby files this preliminary response (“Preliminary Response”) to the Petition for *Inter Partes* Review of U.S. Patent No. 9,048,000 (the “Petition”) in IPR2015-01375 filed by ASML Netherlands B.V., Excelitas Technologies Corp., and Qioptiq Photonics GmbH & Co. KG, (“ASML” or “Petitioner”).

Patent Owner, by submitting this Preliminary Response, does not waive its rights to add or modify arguments should the Patent Trial and Appeal Board (the Board”) decide to institute a trial on this matter. Patent Owner has limited its identification of only certain deficiencies in Petitioner’s argument in this Preliminary Response. The absence of any subject matter addressing or rebutting any arguments or other material presented in the Petition should not be deemed a waiver or admission by Patent Owner, nor should it be deemed to be a concession that the Petitioner has satisfied the heavy burden it must meet for the Board to institute a trial. Additionally, Patent Owner’s discussion or emphasis on any particular claim elements or features of the ’000 Patent in this Preliminary Response, unless otherwise noted herein, is intended to relate only to this IPR proceeding and in no way is a concession regarding other patentable features or aspects of claims in any related proceedings.

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.