

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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INTEL CORPORATION  
Petitioner

v.

ZOND, LLC  
Patent Owner

U.S. Patent No. 7,604,716

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*Inter Partes* Review Case No. 2014-00521

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**PATENT OWNER'S PRELIMINARY RESPONSE  
UNDER 37 CFR § 42.107(a)**

**TABLE OF CONTENTS**

I. INTRODUCTION..... 1

II. TECHNOLOGY BACKGROUND ..... 4

    A. Overview of Plasma Generation Systems..... 4

    B. The ‘716 Patent: Dr. Chistyakov Invents an Improved Plasma Source. .... 7

III. SUMMARY OF PETITIONER’S PROPOSED GROUNDS..... 10

IV. CLAIM CONSTRUCTION UNDER 37 C.F.R. §§ 42.104(B)(3) ..... 10

    A. Construction of “Weakly Ionized Plasma” and “Strongly Ionized Plasma” ..... 11

    B. Construction of “Ionizing a Feed Gas in a Chamber” (Parent Claim 1) ..... 13

    C. Construction of “a Weakly Ionized Plasma that Substantially Eliminates the Probability of Developing an Electrical Breakdown Condition in the Chamber” (Claim 1) ..... 14

V. PETITIONER HAS FAILED TO SHOW A REASONABLE LIKELIHOOD OF PREVAILING..... 16

    A. Defect in Ground I: Petitioner Fails to Demonstrate That Parent Claim 1 is Anticipated by Mozgrin. .... 16

        1. Overview of the Claim 1 Features at Issue. .... 17

        2. Overview of Mozgrin..... 18

        3. Differences Between Mozgrin and Claim 1..... 19

    B. Defect In Ground I: Petitioner Failed To Demonstrate That Claims 12 – 13 Are Obvious In view of Mozgrin Combined with Lantsman ..... 20

        1. Overview of the Claim Features at Issue. .... 20

        2. Differences Between Mozgrin and Claims 12, 13..... 23

        3. Overview of Lantsman ..... 24

        4. Differences Between Lantsman and Claims 12, 13 ..... 27

5. Petitioner’s Inherency Arguments Do Not Cure the Shortcomings in Mozgrin and Lantsman .....	29
6. Conclusion: Petitioner Fails to Show a Reasonable Likelihood that Claims 12, 13 are Obvious in View of Mozgrin Combined With Lantsman. ....	31
C. Defects in Ground II: Petitioner Fails to Demonstrate That Parent Claim 1 is Anticipated by Wang. ....	33
1. Overview of Wang. ....	34
2. Differences Between Wang and the Claim 1 .....	35
3. Conclusion: Petitioner Fails to Show a Reasonable Likelihood that Claim 1 is Anticipated by Wang. ....	36
D. Defect In Ground II: Petitioner Also Fails To Demonstrate A Reasonable Likelihood That Claims 12 and 13 Are Obvious in View of Wang Combined with Lantsman. ....	37
1. Differences Between Wang and the Claims 12, 13. ....	37
2. Differences Between Lantsman and Claims 12, 13 .....	38
3. Conclusion: Petitioner Fails to Show a Reasonable Likelihood that Claim 12 is Obvious in View of Wang Combined With Lantsman. ....	39
VI. CONCLUSION.....	41

## I. Introduction

The present petition for *inter partes* review of U.S. Patent No. 7,604,716 (“the ‘716 patent”) is the second of four petitions filed by Intel challenging the ‘716 patent. This petition challenges two claims of the ‘716 patent, nos. 12, 13, that depend from claim 1. Parent claim 1 is addressed separately in Intel’s petition number IPR2014- 520.

Claims 12 and 13 are directed to the plasma generating apparatus of claim 1 that also includes a gas line for supplying feed gas to a region where a strongly ionize plasma is formed to thereby “**transport** the strongly ionized plasma by a **rapid volume exchange**.” The specification explains, as we will discuss below, that this type of gas flow permits more power to be added to the plasma without arcing and thus allows the formation of denser plasmas.

The Petition alleges that the claims are obvious in view of Mozgrin<sup>1</sup> or Wang<sup>2</sup> (that were already considered by the Patent Office)<sup>3</sup> combined with a prior art patent to Lantsman.<sup>4</sup> But the Petition does not, because it cannot, cite

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<sup>1</sup> Ex. 1103, Mozgrin.

<sup>2</sup> Ex. 1104, Wang patent No. 6,413,382 (“Wang”).

<sup>3</sup> Ex. 1101, ‘716 Patent, list of cited references cited.

<sup>4</sup> Ex. 1105, Lantsman patent no. 6,190,512 (“Lantsman”).

to any teaching in these references of a gas flow through a region where a strongly ionize plasma is formed to thereby “transport” the strongly ionized plasma by “a rapid volume exchange.” Accordingly, it instead tries to nullify this claim language, boldly asserting that this language “merely recites the natural consequence of exchanging gas during processing, e.g., by adding gas to balance gas withdrawn by the vacuum system.”<sup>5</sup> In other words, the Petition alleges that any gas exchange in a plasma chamber, no matter how slow and diffuse, and regardless of the location of the gas flux in the chamber relative to the site where the strongly ionized plasma is formed, will inherently “transport” the strongly ionized plasma by a “rapid volume exchange.” The only evidence cited in support of this facially flawed assertion, is a single conclusory sentence of its Expert.<sup>6</sup> The Petition presents no teaching of this aspect of the claim in the printed literature.

Lastly, the Petitioner reiterates the same accusation that it repeats in all of its petitions, that Zond allegedly misrepresented Mozgrin’s teachings during prosecution of Zond’s U.S. patent number 7,147,759 (“the ‘759 Patent”).<sup>7</sup>

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<sup>5</sup> Petition, page 28.

<sup>6</sup> Ex. 1102, Kortshagen Declaration, Par. 81.

<sup>7</sup> Petition at p. 18, Ex. 1111, ‘759 Patent.

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