

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY LTD, AND
TSMC NORTH AMERICA CORP.

Petitioner

v.

ZOND, LLC
Patent Owner

U.S. Patent No. 7,811,421

Inter Partes Review Case No. 2014-00800

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

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I. Introduction

The Petitioner has represented in a motion for joinder (paper no. 6) that this petition “is identical to the Intel IPR [no. IPR2014-00468] in all substantive respects, includes identical exhibits, and relies upon the same expert declarant.” Accordingly, based upon that representation, the Patent Owner opposes review on the same basis presented in opposition to Intel’s request no. IPR2014-00468, which is repeated below:

The present petition for *inter partes* review of U.S. Patent No. 7,811,421 (“the ‘421 patent”) relies primarily on two prior art references, Mozgrin¹ and Wang² that were already considered by the Patent Office³ and offers no persuasive reasons why the Board should reach a different conclusion here.

The claims are directed to a sputtering source for sputtering material from a sputter target, and a method for high deposition rate sputtering. The claimed source and method generate a voltage pulse for creating the ions needed for sputtering, wherein the pulse’s shape is chosen or adjusted to create a weakly ionized plasma and then a strongly ionized plasma from the weak,

¹ Ex. 1003, Mozgrin.

² Ex. 1004, Wang patent No. 6,413,382 (“Wang”).

³ Ex. 1001, ‘421 Patent, list of cited references cited.

but without arcing. The Petition first argues that Mozgrin anticipates such claims, even though it is a research paper that does not describe a sputter source for sputtering material from a target, and never discloses any experiments that teach the particular type of pulse technique claimed.

The Petition next cites to Wang. Wang at least describes sputtering from a target, but as Petitioner acknowledges, “Wang teaches that arcing may occur during ignition” of the plasma.⁴ This is blatantly at odds with the claimed requirement that the generated pulse “create a weakly ionized plasma ... without an occurrence of arcing.” The Petition tries to diminish the significance of this shortcoming by citing to Wang’s observation that “the initial plasma ignition needs to be performed only once.”⁵ But this changes nothing in an anticipation analysis.

Furthermore, when the Petition resorts to its backup obviousness theories using these same references, it never cures the shortcomings of the references. In fact, it does not address these shortcoming or any differences between the claims and the art, as required by the Supreme Court for a proper

⁴ Petition at 36.

⁵ Petition at page 36, quoting Ex. 1004, Wang.

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