

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

FUJITSU SEMICONDUCTOR LIMITED,
FUJITSU SEMICONDUCTOR AMERICA, INC.,
ADVANCED MICRO DEVICES, INC., RENESAS ELECTRONICS
CORPORATION, RENESAS ELECTRONICS AMERICA, INC.,
GLOBALFOUNDRIES U.S., INC., GLOBALFOUNDRIES DRESDEN
MODULE ONE LLC & CO. KG, GLOBALFOUNDRIES DRESDEN
MODULE TWO LLC & CO. KG, TOSHIBA AMERICA ELECTRONIC
COMPONENTS, INC., TOSHIBA AMERICA INC., TOSHIBA
AMERICA INFORMATION SYSTEMS, INC.,
TOSHIBA CORPORATION, and
THE GILLETTE COMPANY,
Petitioners,

v.

Zond, LLC.
Patent Owner of U.S. Patent No. 6,805,779
Trial No. IPR2014-00828¹

**PETITIONER'S RESPONSE TO PATENT OWNER'S MOTION FOR
OBSERVATION ON CROSS-EXAMINATION OF PETITIONER'S REPLY
WITNESS DR. UWE KORTSHAGEN**

¹ Cases IPR2014-00856, IPR2014-01022, and IPR2014-01070 have been joined with the instant proceeding.

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I. INTRODUCTION

Petitioner submits this response to Patent Owner Zond's Observations on Cross-Examination of Dr. Kortshagen, Paper No. 46 ("Observation"). Patent Owner presents four observations on Dr. Kortshagen's testimony. While Petitioner believes that the testimony will be appropriately viewed and weighed by the Board, the specific observations presented by Patent Owner are irrelevant and mischaracterize the testimony of Dr. Kortshagen, as specified below, and therefore are not probative of any material issue before the Board.

II. RESPONSES TO OBSERVATIONS ON DR. KORTSHAGEN'S TESTIMONY

A. Response to Observation 1

Patent Owner contends that Dr. Kortshagen's testimony indicates "Iwamura does not teach a magnetic field." Observation at 2. More specifically, the Patent Owner contends that "many of the claims of U.S. patent 6,805,779 ('the '779 patent') recite limitations requiring a magnetic field and therefore, the testimony indicates that Iwamura cannot possibly teach these limitations." Observation at 2. Patent Owner's observation is irrelevant to the proceeding.

The questioning on whether Iwamura discloses a magnetic field is wholly irrelevant in light of the grounds of unpatentability relied upon by Petitioner and instituted by the Board. The instituted grounds are not based upon Iwamura alone to disclose the use of magnetic field, but rather upon the combined teachings of

Iwamura in view of Angelbeck and Pinsley. *See, e.g.*, IPR2014-00828 Petition for *Inter Partes* Review at 47-50 (Paper No. 2); IPR2014-00828 Institution Decision at 15-19 (Paper No. 11). Thus, Dr. Kortshagen's testimony is consistent with the grounds instituted in this proceeding. Accordingly, Patent Owner's observation is irrelevant to the instant proceeding.

B. Response to Observation 2

Patent Owner contends that Dr. Kortshagen's testimony indicates that the magnetic field in Pinsley "would not have any effect on the motion of any ground state atoms in the absence of a discharge." Observation at 3. More specifically, the Patent Owner contends that "the magnetic field in Pinsley does not effect [sic] the volume of ground state atoms and therefore, does not teach many of the claim limitations of the '779 patent that require generating a magnetic field proximate to a volume of ground state atoms." Observation at 3. Patent Owner's observation mischaracterizes the claim language and is irrelevant to the proceeding.

The questioning on whether Pinsley discloses a magnetic field affecting ground state atoms is irrelevant in light of both the claim language of the '779 patent and the grounds of unpatentability relied upon by Petitioner and instituted by the Board. All claims of the '779 patent that refer to the use of a magnetic field require that the magnetic field "*substantially trap[] electrons proximate to the ground state atoms.*" *See* '779 Patent at claims 1, 18, 30, and 41 (emphasis added).

Put another way, the claims require that the magnetic field affect **the electrons**, **but there is no requirement that the magnetic field affect the ground state atoms as Zond suggests**. This is the proper read of the claims that Dr. Kortshagen applied when asked questions regarding the magnetic field's effect on electrons and ground state atoms.

Q: So now let's consider the case where there is a current, and it's still true that ground state atoms would exist from the source 12; is that right?

A. That is correct, yes.

Q. And in the case where there is a current, the plasma would exist between the anode and the cathode, correct?

A. Yeah, roughly between the anode and the cathode. Yes, that is correct.

Q. And there may still be ground state atoms present in that situation, correct?

A. There will certainly be some ground state atoms present in that situation, that is correct, yes.

Q. So considering that situation, what if anything would be the effect of the magnetic field on the ground state atoms?

A. So I believe you can actually distinguish between a direct effect and an indirect effect.

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