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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MICRON TECHNOLOGY, INC., INTEL CORPORATION
AND GLOBALFOUNDRIES U.S., INC.

Petitioners

v.

DANIEL L. FLAMM,

Patent Owner

CASE IPR2017-0391
U.S. Patent No. 6,017,221

PATENT OWNER'S RESPONSE
UNDER 37 C.F.R. § 42.120
Claims 1-29

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<i>In re Royka</i> , 490 F.2d 981(C.C.P.A. 1974)	12
<i>In re Wilson</i> , 424 F.2d 1382 (C.C.P.A. 1970)	12

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EXHIBIT LIST

Ex. 2001	Declaration of Daniel L. Flamm, Sc.D.
Ex. 2002	U.S. Pat. No. 5,824,606
Ex. 2003	Second Declaration of Daniel L. Flamm, Sc.D.
Ex. 2004	7 th edition of the Graf reference (1999), pp. 603
Ex. 2005	Sevick's Transmission Line Transformers: Theory and Practice, 5th Edition, 2014, pp. 1-5

Daniel L. Flamm, Sc.D., the sole inventor and owner of the U.S. Patent No. 6,017,221 (“the ‘221 patent”), through his counsel, submits this response pursuant to 37 C.F.R. § 42.120 and asks that the Patent Trial and Appeals Board confirm the patentability of claims 1-7.

I. Introduction

The instant petition is directed toward independent claim 1 and all of the claims that depend from those claims. Petitioners rely primarily on three references, Lieberman, Dible, and Qian, in their attempt to invalidate the ‘221 patent. As will be demonstrated, those references, alone or in combination, fail to provide a basis for invalidating any of the claims of the ‘221 patent.

II. Overview of the ‘221 Patent

The problems that Dr. Flamm was addressing in making the invention of the ‘221 patent were reduction, elimination, and/or control of ion bombardment or ion flux to semiconductor device surfaces being processed in inductively coupled plasmas, while maintaining desired etching selectivity.

(Ex. 1001 at 2:7-16.)

“Conventional ion assisted plasma etching, however, often requires control and maintenance of ion flux intensity and uniformity within selected process limits and within selected process energy ranges. Control and maintenance of ion flux intensity and uniformity are often difficult to achieve using conventional techniques. For instance, capacitive coupling between high voltage selections of the coil and the plasma

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