

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ADVANCED MICRO DEVICES, INC.
Petitioner

v.

AQUILA INNOVATIONS, INC.
Patent Owner

Case IPR2019-01525
Patent 6,239,614 B1

**DECLARATION OF DR. DOUGLAS R. HOLBERG IN SUPPORT OF
PETITIONER ADVANCED MICRO DEVICES, INC.'S REPLY TO
PATENT OWNER'S RESPONSE**

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AMD EX1048

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I, Dr. Douglas R. Holberg, declare as follows:

I. INTRODUCTION

1. I have been retained on behalf of Advanced Micro Devices, Inc. (“AMD” or “Petitioner”) for the above captioned *inter partes* review proceeding. I previously submitted a prior declaration (EX1003) in support of the Petition for *inter partes* review of U.S. Patent No. 6,239,614 (“the ’614 patent”), which I understand was filed on August 28, 2019.

2. I understand that Patent Owner Aquila Innovations, Inc. submitted a Patent Owner Response (“POR”). I have been asked to provide my technical review, analysis, insights, and opinions regarding the POR.

3. My background and qualifications were provided in paragraphs 7-14 of my prior declaration, and my CV was provided as Exhibit 1004. My statements in paragraphs 32-67 of my prior declaration regarding my review of U.S. Patent No. 6,239,614 (“the ’614 patent”) and related materials remain unchanged, as do my understandings of the relevant legal principles stated in paragraphs 15-31.

4. My statements in my original declaration regarding my review of the ’614 patent and related materials remain unchanged. In reaching my opinions provided below, I reviewed my original declaration and the materials reviewed as part of my original declaration. In addition, I have reviewed and considered the following materials:

Paper/Exhibit	DESCRIPTION
12	Institution Decision
18	Patent Owner's Response
EX2002	Declaration of Dr. Przybylski
EX2004	Excerpts from Michael Vai, VLSI Design (2001)
EX2005	Excerpts from Rabaey et al., Digital Integrated Circuits (2003)
EX2006	Excerpts from Peter Van Zant, Microchip Fabrication (2000)
EX1047	Deposition Transcript of Dr. Przybylski
EX1049	Chapter 13 of Microchip Fabrication by Van Zant from the 4 th Edition (2000)
EX1050	"Sea-of-gates architecture" by Manoel E. de Lima and David J. Kinniment, published on Microelectronics Journal Volume 26, Issue 5, July 1995

5. In my opinion, the '614 patent claims nothing more than a layout of a well-known integrated circuit—a multi-threshold complementary metal oxide semiconductor (“MTCMOS”)—and the use of widely known decoupling capacitors. The '614 patent concedes, and I understand that the Patent Owner (“PO) does not dispute, that MTCMOS devices and each of the claimed features, including placing power switches around a unit cell array of MOS transistors and decoupling capacitors, were already known. EX1001, '614 patent, 1:14-32; *see* POR *generally*. And as I explained in my Declaration, it would have been obvious

to combine these known teachings according to known methods to yield predictable results and there would have been a reasonable expectation of success, because such a combination would have been applying a known technique to a known device and for a same purpose. EX1003, ¶¶114-128, 163-171, 205-209. I disagree with each of PO's arguments.

6. For Grounds 1 and 2, I understand that PO's sole argument is that it would not have been obvious to combine the feature of placing power switches around a unit cell array of MOS transistors clearly taught by Mutoh021 in the circuit of Urano (Ground 1) or Mutoh (Ground 2). I understand that for Ground 3, PO presents only one argument. I disagree with PO's arguments as explained below.

7. Thus in my opinion, claims 1-5 of the '614 patent are unpatentable.

II. CLAIM CONSTRUCTION

8. I continue to believe that the constructions presented in the Petition and in my Declaration are correct. EX1003, ¶¶68-107. But regardless of the construction, in my opinion, the challenged claims are invalid as explained here.

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