

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

REALTEK SEMICONDUCTOR CORP.,

Petitioner

v.

ATI TECHNOLOGIES ULC

Patent Owner

Case No.: IPR2023-00922

U.S. Patent No. 8,760,454

Issue Date: June 24, 2014

Title: Graphics Processing Architecture Employing a Unified Shader

**PETITIONER REALTEK SEMICONDUCTOR CORP.'S REPLY TO
PATENT OWNER'S PRELIMINARY RESPONSE**

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PETITIONER'S EXHIBIT LIST

Exhibit #	Reference Name
1001	U.S. Patent 8,760,454 to Morein et al.
1002	Prosecution History of U.S. Patent 8,760,454
1003	Declaration of Hanspeter Pfister, Ph.D.
1004	Curriculum Vitae of Hanspeter Pfister, Ph.D.
1005	U.S. Patent 7,038,685 to Lindholm et al. ("Lindholm '685")
1006	U.S. Patent No. 7,015,913 to Lindholm et al. ("Lindholm '913")
1007	John Amanatides and Edward Szurkowski, <i>A Simple, Flexible, Parallel Graphics Architecture</i> , In Proceedings of Graphics Interface at 155-160 (Canadian Information Processing Society 1993) published in Proc. Graphics Interface '93 in May 1993 ("Amanatides")
1008	Les Kohn and Neal Margulis, <i>Introducing the Intel i860 64-bit Microprocessor</i> , IEEE, Volume 9, Issue 4, pages 15-30, August 1989 ("Kohn")
1009	Harald Selzer, <i>Dynamic Load Balancing within a High Performance Graphics System</i> , In Proceedings of Rendering, Visualization and Rasterization Hardware (Eurographics' 91 Workshop) at 37-53 (Springer-Verlag 1993) published in 1993 ("Selzer") [Library of Congress]
1010	Stuart Fiske and William J. Dally, <i>Thread prioritization: A Thread Scheduling Mechanism for Multiple-Context Parallel Processors</i> , In Proceedings of First Symposium on High-Performance Computer Architecture, 1995 at 210-221 (IEEE 1995) published in 1995 ("Fiske")
1011	IEEE Xplore bibliography page for Fiske, <i>Thread prioritization: A Thread Scheduling Mechanism for Multiple-Context Parallel Processors</i> , visited on May 11, 2023
1012	Declaration of Gordon MacPherson re Authentication of Fiske (May 11, 2023)
1013	IEEE Xplore bibliography page for Kohn, <i>Introducing the Intel i860 64-bit Microprocessor</i> visited on May 11, 2023

1014	Declaration of Gordon MacPherson re Authentication of Kohn (May 11, 2023)
1015	Initial Determination on Violation of Section 337, <i>Certain Consumer Electronics and Display Devices With Graphics Processing and Graphics Processing Units Therein</i> , 337-TA-932 (October 9, 2015)
1016	Harald Selzer, <i>Dynamic Load Balancing within a High Performance Graphics System</i> , In Proceedings of Rendering, Visualization and Rasterization Hardware (Eurographics' 91 Workshop) at 37-53 (Springer-Verlag 1993) published in 1993 (“Selzer”) [University of California, Berkeley, Library]
1017	Redacted Deposition Transcript of Andrew E. Gruber, taken March 17, 2015, in ITC Case No. 337-TA-932

Pursuant to the Board’s authorization of October 6, 2023, Petitioner submits this Reply to Patent Owner’s Preliminary Response (“POPR”) to address the material deficiencies and omission of key evidence from the POPR. Once the withheld evidence is properly considered as part of the record, the POPR and Mangione-Smith declaration clearly do not show prior invention relevant to Ground 1 of the Petition.¹ The subject matter in the omitted ATI 30(b)(6) deposition transcript also makes clear that a previous Federal Circuit decision did not decide the relevant issue here regarding whether the register allocation scheme in the Challenged Claims was conceived and reduced to practice. Much like the Mangione-Smith declaration filed with the POPR, it was not addressed.

Petitioner’s Reply addresses three points: 1) irrelevance of the prior Federal Circuit decision, 2) deficiencies in the Mangione-Smith declaration related to the omitted evidence and differences between the Challenged Claims and claims in related patents, and 3) the omitted inventor and 30(b)(6) deposition transcript that contradicts the POPR and declaration and dooms Patent Owner’s position.

I. The Previous Federal Circuit Decision Is Not Controlling

The Challenged Claims include elements that were not addressed by the

¹ Patent Owner’s alleged prior invention argument has no bearing on Grounds 2 and 3, which are not addressed in this Reply.

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