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 IPR2019-01526 Patent 6,895,519

PETITIONER ADVANCED MICRO DEVICES, INC.'S REPLY TO PATENT OWNER'S RESPONSE

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| | A. | The Ober-Nakazato combination discloses a "plurality of ordinary operation modes." | | 3 | | |
| | | 1. | It would have been obvious to reduce Ober's CPU clock frequency during "ordinary operations." | 6 | | |
| | | 2. | Ober's CPU is capable of operating at reduced clock speeds. | 10 | | |
| | В. | The Ober-Nakazato combination discloses "a first memory storing a clock control library for controlling clock frequency transitions between said ordinary operation modes." | | 13 | | |
| | C. | A POSITA would have been motivated to combine Ober and Nakazato and would have had a reasonable expectation of success | | 14 | | |
| | | 1. | Modifying Ober's register would not cause it to behave unpredictably | 15 | | |
| | | 2. | Combining Ober with Nakazato would not cause Ober's "power management state machine" to behave unpredictably | 16 | | |
| | | 3. | Ober's peripheral devices would not behave unpredictably in the combination of Ober and Nakazato | 17 | | |
| | | 4. | Ober does not "teach away" from Nakazato | 18 | | |
| | D. | The Board properly instituted this IPR. | | 20 | | |
| IV. | | | 2 – OBER IN VIEW OF NAKAZATO, COOPER AND | 22 | | |



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| | A. | The combination of Ober, Nakazato, Cooper, and Windows ACPI renders obvious claims 2-6 | 22 |
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| | B. | Exhibit 1005 qualifies as a printed publication | 23 |
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PETITIONER'S UPDATED EXHIBIT LIST

| Exhibit No. | Description |
|----------------|---------------------------------------------------------------------------|
| 1001 | U.S. Patent No. 6,895,519 B2 to Endo ("the '519 patent") |
| 1002 | File history of U.S. Patent No. 6,895,519 B2 to Endo ("'519 file |
| 1002 | history") |
| 1003 | Declaration of Dr. David Albonesi |
| 1004 | U.S. Patent No. 6,665,802 to Ober ("Ober") |
| | "Draft ACPI Driver Interface Design Notes and Reference," |
| 1005 | Microsoft Hardware White Paper, Microsoft Corporation, 1998 |
| | ("Windows APCI") |
| 1006 | U.S. Patent No. 6,516,422 to Doblar et al. ("Doblar") |
| 1007 | U.S. Patent No. 6,823,516 to Cooper ("Cooper") |
| 1008 | U.S. Patent No. 6,681,336 to Nakazato et al. ("Nakazato") |
| 1009 | Curriculum vitae of Dr. David Albonesi |
| 1010 | McDaniel, G., IBM Dictionary of Computing, McGraw-Hill, 10th |
| 1010 | ed., (1993) ("IBM Dictionary") |
| | "Aquila Innovations, Inc.'s Claim Construction Brief," Aquila |
| 1011 | Innovations, Inc. v. Advanced Micro Devices, Inc., Case No. 1:18- |
| 1011 | cv-00554-LY (W.D. Tex.) (filed July 2, 2019). ("Claim |
| | Construction Brief") |
| | "Aquila Innovations, Inc.'s Preliminary Infringement |
| 1012 | Contentions," Aquila Innovations, Inc. v. Advanced Micro Devices, |
| 1012 | <i>Inc.</i> , Case No. 1:18-cv-00554-LY (W.D. Tex.) (filed Feb. 3, 2019). |
| | ("Preliminary Infringement Contentions") |
| | Compaq Computer Corporation et al., "Advanced Configuration |
| 1013 | and Power Interface Specification, Revision 2.0" (July 27,2000) |
| | ("ACPIspec") |
| 1014 | U.S. Patent No. 5,952,890 to Fallisgaard <i>et al.</i> (Fallisgaard) |
| 1015 | Intel Pentium III Processor/840 Developer Kit Manual (April |
| 1013 | 2001) ("Intel Pentium III Manual") |
| 1016 | TMS320C55x DSP Functional Overview (June 2000) ("TMS |
| 1010 | Overview") |
| 1017 | ST7 8-Bit MCU Family User Guide (July 2002)("ST7 User Guide) |



| Exhibit No. | Description |
|----------------|--------------------------------------------------------------------------------------------------------|
| 1018 | U.S. Patent No. 7,155,617 B2 to Gary et al. ("the '617 patent") |
| 1010 | Microsoft Computer Dictionary, Microsoft Press, 5th ed., |
| 1019 | (2002)("Microsoft Dictionary") |
| 1020 | MICROSOFT.COM, OnNow and Power Management ("OnNow") |
| 1021 | Affidavit of Christopher Butler |
| 1022 | Olukotun et al., The Case for a Single-Chip Multiprocessor (1996) |
| 1022 | Albonesi et al., Tradeoffs in the Design of Single Chip |
| 1023 | Multiprocessors (1994) |
| 1024 | Bossen et al, Power4 Systems: Design for Reliability (2001) |
| 1025 | U.S. Patent No. 5,260,979 to Parker et al. ("the '979 patent) |
| 1026 | U.S. Patent No. 5,530,726 to Toshiaki Ohno ("the '726 patent) |
| 1005 | Trevor Mudge, "Power: A First-Class Architectural Design |
| 1027 | Constraint," IEEE Computer, April 2001 |
| 1020 | Declaration of Dr. David Albonesi in Support of Petitioner's Reply |
| 1028 | to Patent Owner's Response |
| 1020 | Deposition Transcript of Dr. Steven A. Przybylski, August 14, |
| 1029 | 2020. |
| 1030 | Internet Archive capture of http://www.microsoft.com , June 10, |
| 1030 | 2001 (accessed August 27, 2020). |
| | Internet Archive capture of |
| 1031 | http://www.microsoft.com/windows/default.asp, June 9, 2001 |
| | (accessed August 27, 2020). |
| 1032 | Internet Archive capture of http://www.microsoft.com/HWDev/, |
| 1032 | June 11, 2001 (accessed August 27, 2020). |



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