# 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 U.S Patent No. 6,895,519 B2

### **DECLARATION OF DAVID H. ALBONESI**

Mail Stop "PATENT BOARD" Patent Trial and Appeal Board U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450



## **TABLE OF CONTENTS**

I.	Introd	duction			
II.	Quali	ifications			
III.	Mate	erials considered			
IV.	Legal Standards				
	A.	My Understanding of Claim Construction			
	B.	A Person of Ordinary Skill in the Art	9		
	C.	My Understanding of Obviousness	.10		
V.	Level	of Ordinary Skill in the Art	.12		
VI.	Background of the Technology				
	A.	ACPI	.13		
	B.	Fine Grain Microcontroller Clock Control	.15		
	C.	Power Management Libraries Using C	.16		
VII.	The '519 patent				
	A.	Overview of the '519 Patent	.19		
	B.	Discussion of the '519 Patent's Background Section	.20		
	C.	Discussion of the '519 Patent Specification's Alleged Points of Novelty.	.23		
VIII.	Overview of Applied References				
	A.	Ober			
	B.	Nakazato	.27		
	C.	Cooper and Windows ACPI	.30		
	D.	Doblar	.31		
IX.	Claim Construction				
	A.	"system LSI"	.33		
	B.	"a clock control library for controlling a clock frequency transition between said ordinary operation modes"	.34		
	C.	"an application program [wherein calling of said clock control library and changing of said register value are programmably controlled by said application program] to enable user selectable clock frequency transitions"	35		
		crock frequency transitions	. ) .		



	D.	"principal constituents of said central	processing unit"35			
X.	<u>Grou</u>	Fround 1: Claims 1 and 7, 10, 11 - Ober and Nakazato				
	A.	Overview	36			
	B.	Claim 1				
		1. "A system LSI having a plurality modes and a plurality of special frequencies supplied to a central comprising" [1.P]	al modes in response to clock			
		2. "a first memory that stores a cl controlling a clock frequency t ordinary operation modes" [1.1				
		3. "a system control circuit which system control circuit carries of transition between said ordinary special modes in response to a register, and also carries out the among said ordinary operation clock control library;" [1.2]	ut the clock frequency ry operation modes and said change of a value in said e clock frequency transition			
		4. "a clock generation circuit that standard clocks, wherein said of generates a clock supplied to sa according to control by said sy [1.3]	clock generation circuit aid central processing unit			
		5. "a second memory that stores a wherein calling of said clock consaid register value are program application program to enable frequency transitions," [1.4]	ontrol library and changing of mably controlled by said			
		6. "wherein said special modes co which clock supply to principal processing unit is halted, a seco clock supply to an entirety of s halted, and a third special mode the entirety of said central process."	l constituents of said central ond special mode in which aid central processing unit is			
		(a) First Special Mode	66			
		(b) Second Special Mode	67			



			(c) Third Special Mode	.70		
	C.	Clain	ı 7	.70		
		1.	"A system LSI as claimed in claim 1, wherein said system control circuit comprises: [7.P.] a frequency division ratio setting register that sets a frequency division ratio of the clock generated by said clock generation circuit;" [7.1]	.70		
		2.	"a clock halting register that receives the clock from said clock generation circuit and individually sets the clock to be halted or supplied; and" [7.2]	.72		
		3.	"a status register that judges a state of said central processing unit immediately after being released from said third special mode." [7.3]	.74		
	D.	Clain	n 10	.75		
		1.	"A system LSI as claimed in claim 1, wherein said first memory and said second memory are two independent memories which are separated from each other."	.75		
	E.	Clain	n 11	.77		
		1.	"A system LSI as claimed in claim 1, wherein said first memory and said second memory are formed to coexist in one memory, sharing memory area of said one memory."	.77		
XI.	Grou	Ground 2: Claims 2-6 (Ober, Nakazato, Cooper and Windows ACPI)7				
	A.	Overview				
	B.	Claim 2				
		1.	"A system LSI as claimed in claim 1, wherein said clock control library comprises: [2.P] a plurality of libraries that control said system control circuit and said clock generation circuit to transition the clock frequencies supplied to said central processing unit; and" [2.1]	.85		
		2.	"a main library which is called by said application program and selects any one of said libraries in correspondence with the clock frequency supplied to said central processing unit." [2.2]			
	C.	Clain	ns 3 and 4	.91		
	D.	Clain	ns 5 and 6	.92		
XII.	Grou	Ober in view of Nakazato and Doblar	.94			



	A.	Overv	iew	94
	B.	Claim 8		99
		1.	"A system LSI as claimed in claim 1, wherein said clock generation circuit comprises: [8.P] a PLL that receives a plurality of standard clocks and generates the clock if needed by multiplying said standard clocks; and" [8.1]	99
		2.	"a frequency division/selection portion that carries out frequency division or selection of said standard clocks or said multiplied standard clock. [8.2]	101
	C.	Claim	9	103
		1.	"A system LSI as claimed in claim 8, wherein one of said standard clocks uses a frequency of 32.768 kHz as a base oscillation."	103
XIII.	Conclusion			105

# DOCKET

# Explore Litigation Insights



Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

# **Real-Time Litigation Alerts**



Keep your litigation team up-to-date with **real-time** alerts and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

# **Advanced Docket Research**



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

# **Analytics At Your Fingertips**



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

#### API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

#### **LAW FIRMS**

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

#### **FINANCIAL INSTITUTIONS**

Litigation and bankruptcy checks for companies and debtors.

### **E-DISCOVERY AND LEGAL VENDORS**

Sync your system to PACER to automate legal marketing.

