### IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent of Conley:

U.S. Pat. No. 7,818,490

Issued: October 19, 2010

Title: PARTIAL BLOCK DATA PROGRAMMING AND READING OPERATIONS IN A NON-VOLATILE

**MEMORY** 

Petition for *Inter Partes* Review

Attorney Docket No.: 337722-70.490c

Customer No.: 26379

Petitioner: Apple Inc.

Real Party-in-Interest: Apple Inc.

### PETITION FOR INTER PARTES REVIEW

Mail Stop Patent Board Patent Trial and Appeal Board P.O. Box 1450 Alexandria, VA 22313-1450

Dear Sir:

Pursuant to the provisions of 35 U.S.C. §§ 311-319, Apple Inc. (hereinafter "Petitioner") hereby petitions the Patent Trial and Appeal Board to institute an *inter partes* review of claims 73-92 of United States Patent No. 7,818,490 ("the '490 patent")



# **TABLE OF CONTENTS**

|      |                   |   |   | rage |  |  |
|------|-------------------|---|---|------|--|--|
| I.   | MANDATORY NOTICES |   |   |      |  |  |
|      | А.<br>В.          |   | lated Matters1                                  |      |  |  |
|      |                   |   |   |      |  |  |
|      | C.                | Lead and Back-up Counsel  |   |      |  |  |
|      | D.                |   | vice Information                                |      |  |  |
| II.  |                   |   | UNDS FOR STANDING2                              |      |  |  |
| III. |                   | RELIEF REQUESTED  |   |      |  |  |
| IV.  | THE<br>A.         | HE REASONS FOR THE REQUESTED RELIEF   |   |      |  |  |
|      | B.                | Relevant Technology Background (Flash Memory)4  |   |      |  |  |
|      | C.                | Overview of the '490 Patent   |   |      |  |  |
|      | D.                | Level of Ordinary Skill in the Art  |   |      |  |  |
|      | E.                | Clair   | m Construction                                  | 9    |  |  |
|      |                   | 1.  | "metablock" (claim 87)                          | 10   |  |  |
|      | F.                | Challenge #1: Niijima Anticipates Claims 73-86 and 92, or Renders Those Claims Obvious in View of the Knowledge Person of Ordinary Skill in the Art |   |      |  |  |
|      |                   | 1.  | Overview of Niijima                             | 11   |  |  |
|      |                   | 2.  | Niijima anticipates or renders obvious claim 73 | 15   |  |  |
|      |                   | 3.  | Niijima anticipates or renders obvious claim 74 | 21   |  |  |
|      |                   | 4.  | Niijima anticipates or renders obvious claim 75 | 23   |  |  |
|      |                   | 5.  | Niijima anticipates or renders obvious claim 76 | 23   |  |  |
|      |                   | 6.  | Niijima anticipates or renders obvious claim 77 | 23   |  |  |
|      |                   | 7.  | Niijima anticipates or renders obvious claim 78 | 25   |  |  |
|      |                   | 8.  | Niijima anticipates or renders obvious claim 79 | 26   |  |  |
|      |                   | 9.  | Niijima anticipates or renders obvious claim 80 | 27   |  |  |
|      |                   | 10.   | Niijima anticipates or renders obvious claim 81 | 29   |  |  |
|      |                   | 11.   | Niijima anticipates or renders obvious claim 82 | 30   |  |  |



# TABLE OF CONTENTS (continued)

|    |            |  | r  | age |
|----|------------|--|--|-----|
|    |            | 12.  | Niijima anticipates or renders obvious claim 83  | 31  |
|    |            | 13.  | Niijima anticipates or renders obvious claim 84  | 32  |
|    |            | 14.  | Niijima anticipates or renders obvious claim 85  | 33  |
|    |            | 15.  | Niijima anticipates or renders obvious claim 86  | 34  |
|    |            | 16.  | Niijima anticipates or renders obvious claim 92  | 36  |
|    | G.         | Challenge #2: Niijima in View of Wells Renders Claims 87 and 88 Obvious  |  |     |
|    |            | 1.   | Overview of Wells  | 37  |
|    |            | 2.   | Niijima in view of Wells renders claim 87 obvious  | 39  |
|    |            | 3.   | Niijima in view of Wells renders claim 88 obvious  | 42  |
|    | H.         | Challenge #3 (Multi-Bit Claims): Niijima and the Admitted<br>Prior Art or Cappelletti Renders Claim 89 Obvious |  |     |
|    |            | 1.   | Niijima and the Admitted Prior Art or Cappelletti renders<br>Claim 89 obvious                              | 45  |
|    | I.         |  | Challenge #4 (Floating Gates): Niijima and the Admitted Prior Art or Cappelletti Render Claim 90 Obvious   |     |
|    |            | 1.   | Niijima and the Admitted Prior Art or Cappelletti renders<br>Claim 90 obvious                              | 47  |
|    | J.         |  | lenge #5 (Enclosure Card): Niijima and the Admitted Prior or the PC Card Standard Renders Claim 91 Obvious | 47  |
|    |            | 1.   | Niijima and the Admitted Prior Art or the PC Card standard renders Claim 91 obvious                        | 48  |
| V. | CONCLUSION |  | ION  | 49  |



# **EXHIBITS**

| Ex. 1201 | U.S. Patent No. 7,818,490 to Conley ("the '490 patent") |
|----------|---|
| Ex. 1202 | Prosecution File History for U.S. Patent No. 7,818,490  |
| Ex. 1203 | Declaration of Dr. Vivek Subramanian                    |
| Ex. 1204 | CV for Dr. Vivek Subramanian                            |
| Ex. 1205 | U.S. Patent No. 5,822,781 to Wells ("Wells")            |
| Ex. 1206 | U.S. Patent No. 5,457,658 to Niijima ("Nijima")         |
| Ex. 1208 | Flash Memories, edited by Cappelletti, et al (1999)     |
|          | ("Cappelletti")   |
| Ex. 1209 | PC Card Standard, Volumes 1 and 3 (1999) ("PC Card      |
|          | Standard")  |
| Ex. 1210 | PCT WO 99/35650 ("Hazen")                               |
| Ex. 1211 | Designing With Flash Memory, Brian Dipert and Markus    |
|          | Levy (1994) ("Dipert")                                  |



## I. Mandatory Notices

### A. Real Party-in-Interest

Pursuant to 37 C.F.R. § 42.8(b)(1), the real party-in-interest is Apple Inc.

### **B.** Related Matters

Petitioner states that Longitude Flash Memory Systems S.A.R.L. ("Patent Owner") is asserting the '490 patent against the real party-in-interest in a suit filed September 23, 2014, *Longitude Licensing Ltd. v. Apple Inc.*, Case No. 3:14-cv-4275, pending in the USDC for N.D. Cal. ("Related Litigation"). Petitioner has filed, or soon will file, IPR petitions for U.S. Patent Nos. 6,510,488; 6,763,424 (the "'424 patent"); 6,831,865; 6,968,421; 7,012,835; 7,120,729; 7,224,607; 7,181,611; 7,657,702 (the "'702 patent"); 7,970,987; 8,050,095; and 8,316,177. Petitioner also is concurrently filing two other petitions for the '490 patent for claims other than the ones at issue in this petition.

The '424 patent, which is the parent of the '490 patent, was the subject of previous litigation and the following opinions in which one or more claim terms found in both patents were construed: (1) SanDisk Corp. v. Kingston Tech. Co., 695 F.3d 1348 (Fed. Cir. 2012); (2) In the Matter of Certain Flash Memory Controllers, USITC, Inv. No. 337-TA-619, Order No. 33, July 15, 2008 (Bullock, ALJ); and (3) In the Matter of Certain Flash Memory Controllers, USITC, Inv. No. 337-TA-619, Commission Opinion, November 24, 2009. The '702 patent,



# 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.

