

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Apple Inc.
Petitioner

v.

Qualcomm Incorporated
Patent Owner

Case IPR2018-01249
Patent 7,693,002

**PATENT OWNER RESPONSE TO PETITION FOR *INTER PARTES*
REVIEW PURSUANT TO 37 C.F.R. § 42.220**

TABLE OF CONTENTS

I.	INTRODUCTION	1
II.	THE ALLEGED GROUNDS OF UNPATENTABILITY	6
III.	OVERVIEW OF THE '002 PATENT	7
IV.	CLAIM CONSTRUCTION	11
V.	LEVEL OF ORDINARY SKILL IN THE ART	15
VI.	OVERVIEW OF THE CITED REFERENCES	16
	A. Overview of Sato.....	16
	B. Overview of Asano.....	23
	C. Overview of Itoh	26
VII.	SATO DOES NOT RENDER CLAIMS 1-28 AND 31-37 OBVIOUS (GROUND 1).....	27
	A. The Petition Fails to Establish a <i>Prima Facie</i> Case of Obviousness over Sato.....	28
	B. Sato Does Not Teach or Suggest the “Clock Signal” Required by the Claims.....	30
	1. Sato’s Selection Control Signal ϕ_{ce} is Not a “Periodic Signal Used for Synchronization,” As Required Under the Proper Construction of the Term “Clock Signal.”.....	30
	2. Sato Discloses an Asynchronous Memory System That Does Not Use a Periodic Clock Signal.	33
	3. Petitioner’s Assertion That Sato’s Selection Control Signal “Represents or Renders Obvious a Clock Signal” Is Erroneous.	35
	C. Sato Does Not Teach or Suggest the “Clock Output” Required by the Claims.....	45

VIII. ASANO AND ITOH DO NOT RENDER CLAIMS 1-17, 20-28,
AND 31-36 OBVIOUS (GROUND 2)47

A. Asano Does Not Disclose or Suggest a Circuit Device Including
Distinct “First Logic” and “Second Logic.”48

B. The Petition Does Not Sufficiently Articulate Why a POSA Would
Allegedly Have Been Motivated to Combine Asano and Itoh.....53

IX. CONCLUSION.....58

Pursuant to the Board’s Decision – Institution of *Inter Partes* Review (Paper 6), entered January 15, 2019 – Patent Owner Qualcomm, Inc. (“Qualcomm” or “Patent Owner”) submits this response in opposition to the petition for *inter partes* review of U.S. Patent No. 7,693,002 (the “’002 patent”) filed by Apple Inc. (“Apple” or “Petitioner”).

I. INTRODUCTION

The ’002 patent describes and claims an improved wordline driver system. In that system, a received memory address specifying a particular wordline of a memory array is split into first and second portions. Ex. 1001 at 3:18-25. A first logic receives and decodes the first portion of the memory address, and a second logic receives and decodes the second portion. *Id.* at 3:26-28, 3:37-40. The first logic also receives a clock signal and applies the clock signal to a selected clock output based on the first portion of the memory address. *Id.* at 3:28-36, 9:35-40. The second logic, by contrast, selectively activates a particular wordline driver based on the second portion of the memory address. *Id.* at 3:9-4:8. With this arrangement, the clock loading for the synchronous memory circuit is significantly reduced. Ex. 2001 at ¶¶34-35, 67. The first and second logics of the ’002 patent are shown in the annotated illustration below.

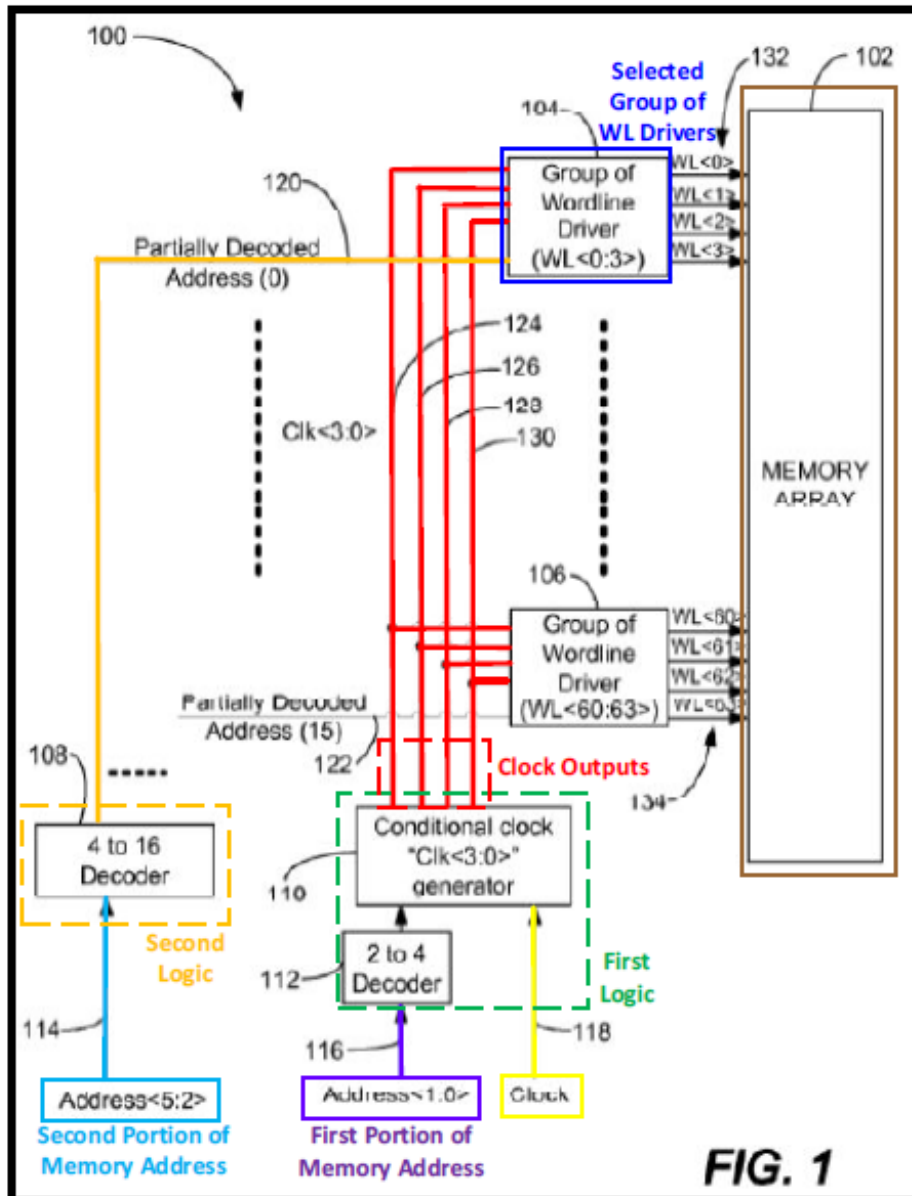


FIG. 1

Paper 2 at 8.

The first and second logics operate independently of each other and apply their respective outputs directly to wordline drivers in parallel, thus reducing a timing delay in providing the clock signal to a particular wordline driver. Ex. 2001

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.