

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent of: Al-Ali et al.
U.S. Patent No.: 7,761,127 Attorney Docket No.: 50095-0046IP2
Issue Date: July 20, 2010
Appl. Serial No.: 11/366,209
Filing Date: March 1, 2006
Title: MULTIPLE WAVELENGTH SENSOR SUBSTRATE

Mail Stop Patent Board

Patent Trial and Appeal Board
U.S. Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

**PETITION FOR *INTER PARTES* REVIEW OF UNITED STATES PATENT
NO. 7,761,127 PURSUANT TO 35 U.S.C. §§ 311–319, 37 C.F.R. § 42**

TABLE OF CONTENTS

I.	REQUIREMENTS FOR IPR UNDER 37 C.F.R. § 42.104.....	1
A.	Standing	1
B.	Challenge and Relief Requested.....	1
II.	SUMMARY OF THE '127 PATENT	3
A.	Brief Description.....	3
B.	Summary of the Prosecution History.....	5
C.	Level of Ordinary Skill in the Art.....	6
III.	CLAIM CONSTRUCTION UNDER 37 C.F.R. §§ 42.104(b)(3)	6
IV.	THE CHALLENGED CLAIMS ARE UNPATENTABLE.....	7
A.	[Ground 3A]: Dietiker in view of Oldham (Claims 7-10).....	7
1.	Dietiker	7
2.	Oldham	9
3.	Obviousness Based on Dietiker-Oldham Combination	11
B.	[Ground 3B]: Dietiker in view of Oldham and Leibowitz (Claims 11-12)	
	39	
1.	Leibowitz.....	39
2.	Obviousness Based on Dietiker-Oldham-Leibowitz Combination	
	41
C.	[Ground 3C]: Dietiker in view of Oldham and Noguchi (Claims 1-3, 6,	
	13-17, 20-23).....	46
1.	Noguchi	46
2.	Obviousness Based on Dietiker-Oldham-Noguchi Combination	46
D.	[Ground 3D]: Dietiker, Oldham, Noguchi, Leibowitz (Claims 4-5, 18-	
	19, 24-25).....	65
1.	Obviousness Based on Dietiker-Oldham-Noguchi-Leibowitz	
	Combination	65
E.	[Ground 3E]: Dietiker in view of Oldham, Noguchi, and Yamada	
	(Claims 26, 27, 30)	66
1.	Yamada.....	66
2.	Obviousness Based on Dietiker-Oldham-Noguchi-Yamada	
	Combination	67
F.	[Ground 3F]: Dietiker in view of Oldham, Noguchi, Yamada, and	
	Leibowitz (Claims 28, 29)	72
1.	Obviousness Based on Dietiker-Oldham-Noguchi-Yamada-	
	Leibowitz Combination	72

V. PTAB DISCRETION SHOULD NOT PRECLUDE INSTITUTION.....73
 A. 314(a) – *Fintiv*.....73
 B. 325(d).....74

VI. MANDATORY NOTICES UNDER 37 C.F.R. §42.8.....75
 A. Real Parties-In-Interest Under 37 C.F.R. §42.8(b)(1)75
 B. Related Matters Under 37 C.F.R. §42.8(b)(2)75
 C. Lead And Back-Up Counsel Under 37 C.F.R. §42.8(b)(3).....76
 A. Service Information76

VII. PAYMENT OF FEES – 37 C.F.R. §42.103.....76

VIII. CONCLUSION.....77

EXHIBITS

APPLE-1001	U.S. Patent No. 7,761,127 to Al-Ali (“the ’127 Patent”)
APPLE-1002	Excerpts from the Prosecution History of the ’127 Patent
APPLE-1003	Expert Declaration of Brian Anthony, Ph.D.
APPLE-1004	Certified English Translation of Japanese Patent Publication No. JP 2004-337605 A (“Yamada”)
APPLE-1005	U.S. Patent No. 3,514,538 (“Chadwick”)
APPLE-1006	U.S. Patent No. 4,591,659 (“Leibowitz”)
APPLE-1007	U.S. Patent No. 5,259,381 (“Cheung”)
APPLE-1008	U.S. Patent No. 5,334,916 (“Noguchi”)
APPLE-1009	U.S. Patent Publication No. 2003/0033102 (“Dietiker”)
APPLE-1010	U.S. Patent Publication No. 2005/0279949 (“Oldham”)
APPLE-1011	Japanese Patent Publication No. JP 2004-337605 A
APPLE-1012	Respondent Apple Inc.’s Post-Hearing Brief, <i>In the Matter of Certain Light-Based Physiological Measurement Devices and Components Thereof</i> , International Trade Commission Investigation No. 337-TA-1276 (June 27, 2022)
APPLE-1013	<i>Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation</i> , issued June 21, 2022 (“Interim Guidance”)
APPLE-1014	J.A. Scarlett, <i>The Multilayer Printed Circuit Board Handbook</i> (1985) (selected excerpts)
APPLE-1015	Peltier Effect Heat Pumps Datasheet (March 1999)

CLAIM LISTING

Element	Claim Language
[1.P]	A physiological sensor comprising:
[1.1]	a plurality of emitters configured to transmit optical radiation having a plurality of wavelengths in response to a corresponding plurality of drive currents, the plurality of emitters including a substrate;
[1.2]	a thermal mass disposed proximate the emitters and within the substrate so as to stabilize a bulk temperature for the emitters; and
[1.3]	a temperature sensor thermally coupled to the thermal mass,
[1.4]	wherein the temperature sensor provides a temperature sensor output responsive to the bulk temperature so that the wavelengths are determinable as a function of the drive currents and the bulk temperature.
[2]	The physiological sensor according to claim 1 wherein the substrate has a first side and a second side, wherein the emitters are mounted to the first side, and wherein the temperature sensor is mounted to the second side.
[3]	The physiological sensor according to claim 2 wherein the temperature sensor is a thermistor and the emitters are LEDs.
[4]	The physiological sensor according to claim 3: wherein the thermal mass is a plurality of layers of the substrate.
[5]	The physiological sensor of claim 4 wherein each of the layers of the thermal mass is substantially copper clad.
[6]	The physiological sensor according to claim 1: wherein the thermal mass is disposed within the substrate proximate the light emitting sources and the temperature sensor.
[7.P]	A physiological sensor capable of emitting light into tissue and producing an output signal usable to determine one or more

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.