

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SONY CORPORATION,
Petitioner

v.

RAYTHEON COMPANY,
Patent Owner

Case IPR2016-00209

Patent 5,591,678

PATENT OWNER RESPONSE

TABLE OF CONTENTS

I.	INTRODUCTION	1
II.	SUMMARY OF ARGUMENTS	2
	A. The Challenged Claims Are Patentable Over Liu	2
	B. The Challenged Claims Are Patentable Over Liu in Combination with the Secondary References.....	4
III.	THE '678 PATENT	6
	A. Background Regarding '678 Patent and Technology.....	6
	B. Level of Ordinary Skill in the Art	10
	C. Claim Construction	10
	1. “Wafer”	11
	2. “Overlying”	12
	3. “Furnishing” and “Forming”	13
IV.	THE '678 PATENT IS PATENTABLE	14
	A. Legal Standards.....	14
	1. Anticipation	14
	2. Obviousness	15
	B. The Challenged Claims Are Patentable over Liu	16
	1. Liu Does Not Disclose Furnishing a Substrate with Three Different Layers as Required in Claims 1 and 11	16
	2. Liu’s CCD Layers 6 and 8 Are Not A Wafer	20
	3. Liu’s CCD Layers Do Not Overlie	23
	4. Liu Does Not Disclose Forming a Microelectronic Circuit Element in the Exposed Side of the Wafer.....	25
	5. Liu Does Not Disclose Patterning and Back-side Processing	25
V.	THE CHALLENGED CLAIMS ARE ALL PATENTABLE OVER GROUNDS 2-8.	31

A.	Claims 2-4 and 11 are Patentable Over Liu and Black	33
B.	Claims 5 and 12-16 are Patentable Over Liu and Riseman	36
C.	Claim 8 is Patentable Over Liu and Oldham	39
D.	Claim 10 is Patentable Over Liu and Wen	40
E.	Claim 9 is Patentable over Liu, Wen, and Ying	40
F.	Claim 17 is Patentable Over Liu, Riseman, and Kusunoki.....	41
G.	Claim 18 is Patentable Over Liu, Riseman, and Oldham	42
VI.	SECONDARY CONSIDERATIONS SUPPORT THE NONOBVIOUSNESS OF THE '678 PATENT	42
VII.	CONCLUSION	49

TABLE OF AUTHORITIES

	Page(s)
CASES	
<i>Bancorp Servs., L.L.C. v. Hartford Life Ins. Co.</i> , 359 F.3d 1367 (Fed. Cir. 2004)	18
<i>Continental Can Co. v. Monsanto Co.</i> , 948 F.2d 1264 (Fed. Cir. 1991)	14
<i>Crown Operations Int’l, Ltd. v. Solutia Inc.</i> , 289 F.3d 1367 (Fed. Cir. 2002)	14
<i>Eli Lilly & Co. v. Zenith Goldline Pharms., Inc.</i> , 471 F.3d 1369 (Fed. Cir. 2006)	15
<i>Graham v. John Deere Co. of Kansas City</i> , 383 U.S. 1 (1966).....	43
<i>In re Brouwer</i> , 77 F.3d 422 (Fed. Cir. 1996)	15
<i>In re Gordon</i> , 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).....	34
<i>In re NTP, Inc.</i> , 654 F.3d 1279 (Fed. Cir. 2011)	15
<i>In re Robertson</i> , 169 F.3d 743 (Fed. Cir. 1999)	15
<i>K-Tec, Inc. v. Vita-Mix Corp.</i> , 696 F.3d 1364 (Fed. Cir. 2012)	33-34, 42
<i>KSR Int’l Co. v. Teleflex Inc.</i> , 550 U.S. 398 (2007).....	15
<i>Leo Pharm. Prods. v. Rea</i> , 726 F.3d 1346 (Fed. Cir. 2013)	43-46

<i>McGinley v. Franklin Sports, Inc.</i> , 262 F.3d 1339 (Fed. Cir. 2001)	16
<i>Panduit Corp. v. Dennison Mfg. Co.</i> , 810 F.2d 1561 (Fed. Cir. 1987)	19
<i>Phillips v. AWH Corp.</i> , 415 F.3d 1303 (Fed. Cir. 2005)	10
<i>Ruiz v. A.B. Chance Co.</i> , 234 F.3d 654 (Fed. Cir. 2000)	15
<i>Scripps Clinic & Research Found. v. Genentech, Inc.</i> , 927 F.2d 1565 (Fed. Cir. 1991) (overruled in part on other grounds).....	14
<i>Square, Inc., v. Cooper</i> , IPR2014-00157, Paper 17	10
<i>Stratoflex v. Aeroquip Corp.</i> , 713 F.2d 1530 (Fed. Cir. 1983)	43
<i>Transocean Offshore Deepwater Drilling, Inc. v. Maersk Drilling USA, Inc.</i> , 699 F.3d 1340 (Fed. Cir. 2012)	43

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.