

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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TIANMA MICROELECTRONICS CO. LTD.,  
Petitioner,

v.

JAPAN DISPLAY INC. and  
PANASONIC LIQUID CRYSTAL DISPLAY CO., LTD.,  
Patent Owner.

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IPR2021-01061  
Patent 10,423,034 B2

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Before JO-ANNE M. KOKOSKI, KRISTINA M. KALAN, and  
ELIZABETH M. ROESEL, *Administrative Patent Judges*.

ROESEL, *Administrative Patent Judge*.

DECISION  
Granting Institution of *Inter Partes* Review  
35 U.S.C. § 314

## I. INTRODUCTION

### A. *Background and Summary*

Tianma Microelectronics Co. Ltd. (“Petitioner”) filed a Petition (Paper 2, “Pet.”) seeking an *inter partes* review of claims 1–4 and 6–8 (the “challenged claims”) of U.S. Patent No. 10,423,034 B2 (Ex. 1001, “the ’034 Patent”). Japan Display Inc. and Panasonic Liquid Crystal Display Co., Ltd. (“Patent Owner”) filed a Preliminary Response. Paper 7 (“Prelim. Resp.”).

We have authority to determine whether to institute an *inter partes* review. 35 U.S.C. § 314 (2018); 37 C.F.R. § 42.4(a) (2021). An *inter partes* review may not be instituted “unless . . . there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a). After considering the parties’ arguments and evidence, we determine that Petitioner has shown a reasonable likelihood that it will prevail with respect to at least one claim challenged in the Petition, and we do not exercise our discretion to deny institution. Therefore, we grant institution of an *inter partes* review.

Our findings and conclusions below are based on the record developed thus far. This is not a final decision as to the patentability of any challenged claim. Any final decision will be based on the full record developed during trial.

### B. *Related Matters*

Although the parties initially identified *Japan Display Inc. and Panasonic Liquid Crystal Display Co. v. Tianma Microelectronics Co.*, No. 2:20-cv-00283 (E.D. Tex.) (the “Texas litigation”), as a related matter, the

parties each filed updated mandatory notices indicating that the '034 Patent is no longer at issue in the Texas litigation. Papers 12, 14.

*C. The '031 Patent (Ex. 1001)*

The '034 Patent discloses a liquid crystal display (“LCD”) device in which the interval between the thin film transistor (“TFT”) substrate and the opposed substrate is defined by a column-type spacer. Ex. 1001, 2:47–52. According to the '034 Patent, by locating the spacer “at a crossing point between a scanning line and a drain line, problems due to formation of the column, including reduction of transmittance and light leakage due to orientation disturbance can be reduced.” *Id.* at 4:26–30.

*D. Illustrative Claim*

The '034 Patent includes eight claims, and claims 1–4 and 6–8 are challenged in the Petition. Claim 1 is the sole independent claim and is reproduced below with parenthetical identifiers added to correspond with Petitioner’s claim mapping.

1(pre). A liquid crystal display device comprising:

- (a) a first substrate;
- (b) a second substrate;
- (c) liquid crystal enclosed between the first substrate and the second substrate;
- (d) a scanning line formed between the first substrate and the liquid crystal;
- (e) a drain line crossing the scanning line;
- (f) a thin film transistor having a semiconductor layer and a source electrode,
- (g) a first insulation film above the semiconductor layer and having a first contact hole and a second contact hole, the semiconductor layer being connected to the drain line via the first

contact hole and connected to the source electrode via the second contact hole;

(h) an organic film above the source electrode;

(i) a second insulation film;

(j) a common electrode between the organic film and the second insulation film;

(k) a first pixel electrode above the second insulation film and connected to the source electrode via a third contact hole formed in the second insulation film;

(l) a second pixel electrode adjacent to the first pixel electrode;  
and

(m) a spacer disposed between the first substrate and the second substrate,

(n) wherein the scanning line has a first side and a second side opposite to the first side in the plan view, the first pixel electrode is located on the first side and the second pixel electrode is located on the second side,

(o)(i) wherein the semiconductor layer overlapped with the scanning line at a first channel region and a second channel region, and

(o)(ii) a part of the semiconductor layer between the first channel region and the second channel region is located on the second side of the scanning line,

(p) wherein the spacer is overlapped with the semiconductor layer, the drain line, the organic film, and the common electrode,

(q) wherein the first contact hole, the second contact hole, and the third contact hole are located on the first side of the scanning line, and

(r) wherein the part of the semiconductor layer between the first channel region and the second channel region is overlapped with the second pixel electrode.

Ex. 1001, 12:60–14:6 (parentheses with annotations added); *see* Pet. 20–63

(claim mapping).

*E. Asserted Grounds*

Petitioner asserts the following grounds of unpatentability under 35 U.S.C. § 103(a).<sup>1</sup>

Ground	Claim(s) Challenged	References
1	1–4, 6–8	Ochiai, <sup>2</sup> Ando <sup>3</sup>
2	7	Ochiai, Ando, Hattori <sup>4</sup>
3	8	Ochiai, Ando, Yanagawa <sup>5</sup>

*F. Testimonial Evidence*

In support of the Petition, Petitioner relies on a Declaration of Dr. Bruce W. Smith. Ex. 1002 (the “Smith Declaration”). In support of the Preliminary Response, Patent Owner relies on a Declaration of Mr. Thomas L. Credelle. Ex. 2003.

II. ANALYSIS

*A. Discretionary Denial*

In the Preliminary Response, Patent Owner argues that the Petition should be denied under 35 U.S.C. § 314(a) and *Fintiv*<sup>6</sup> in view of the Texas litigation. Prelim. Resp. 1–15. Patent Owner has since withdrawn

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<sup>1</sup> The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, 125 Stat. 284, 287–88 (2011), amended 35 U.S.C. § 103, effective March 16, 2013. Because the ’034 Patent has an effective filing date before this date, the pre-AIA version of § 103 applies. Ex. 1001, code (63).

<sup>2</sup> Ex. 1005, US 2008/0007679 A1, published January 10, 2008 (“Ochiai”).

<sup>3</sup> Ex. 1006, US 6,356,330 B1, issued March 12, 2002 (“Ando”).

<sup>4</sup> Ex. 1009, US 2008/0018816 A1, published January 24, 2008 (“Hattori”).

<sup>5</sup> Ex. 1010, US 6,798,486 B2, issued September 28, 2004 (“Yanagawa”).

<sup>6</sup> *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 (PTAB Mar. 20, 2020) (precedential).

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