

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CHIMEI INNOLUX CORPORATION
Petitioner

v.

SEMICONDUCTOR ENERGY LABORATORY CO., LTD.
Patent Owner

Case IPR2013-00038
Patent 7,956,978 B2

Before SALLY C. MEDLEY, KARL D. EASTHOM, and
KEVIN F. TURNER, *Administrative Patent Judges*.

EASTHOM, *Administrative Patent Judge*.

DECISION
Institution of *Inter Partes* Review
37 C.F.R. § 42.108

I. BACKGROUND

Petitioner, Chimei Innolux Corp. (“CMI”), filed a Petition¹ to institute an *inter partes* review of claims 7 and 17 of U.S. Patent 7,956,978 owned by Semiconductor Energy Laboratory Co., Ltd. (“SEL”). *See* 35 U.S.C. § 311. In response, Patent Owner, SEL, filed a Preliminary Response.² For the reasons that follow, the Board hereby institutes an *inter partes* review of the ‘978 patent. *See* 35 U.S.C. § 314.

The standard for instituting an *inter partes* review is set forth in 35 U.S.C. § 314(a):

THRESHOLD – The Director may not authorize an *inter partes* review to be instituted unless the Director determines that the information presented in the petition filed under section 311 and any response filed under section 313 shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.

Pursuant to the defined threshold under 35 U.S.C. § 314(a), the Board institutes an *inter partes* review of claims 7 and 17 of the ‘978 Patent.

A. The ‘978 Patent

The ‘978 patent describes LCD (liquid-crystal display) devices having two opposing substrates bonded together with a sealing material. (*See* Ex. 1001, col. 1, ll. 7-11.) According to the ‘978 patent, prior art LCD devices have non-uniform seals which create an uneven gap between the two opposing substrates. The uneven gap ultimately results in deteriorated LCD image quality. (*See* Ex. 1001, col. 2, ll. 38-49.) The uneven seal and consequent gap occur because peripheral

¹ *Request for Inter Partes Review of U.S. Patent No. 7,956,978 Under 35 U.S.C. §§ 311-319 and 37 C.F.R. § 42.100 Et Seq.* (mailed Nov. 9, 2012).

² *Preliminary Response of the Patent Owner* (Feb. 8, 2013).

drive circuits and conducting lines traverse the sealing region in a non-uniform manner, for example, on two sides of a substrate instead of all four. (*See id.* and *id.* at Fig. 17; col. 1, l. 62 to col. 2, l. 6.) The invention of the '978 patent solves the seal problem by using dummy wiring sections which are nearly equal in height to the other conductive lines traversing the seal in order to render the seal and consequent gap between opposing substrates more uniform. (*See id.* at Fig. 1; col. 3, ll. 20-28; col. 6, ll. 37-41; col. 7, l. 58 to col. 8, l. 17; col. 14, ll. 39-47; col. 16, ll. 10-24.)

Patent Owner SEL's Preliminary Response reproduces and annotates Figures 1 and 9 from the '978 patent to aid in understanding the claimed invention:

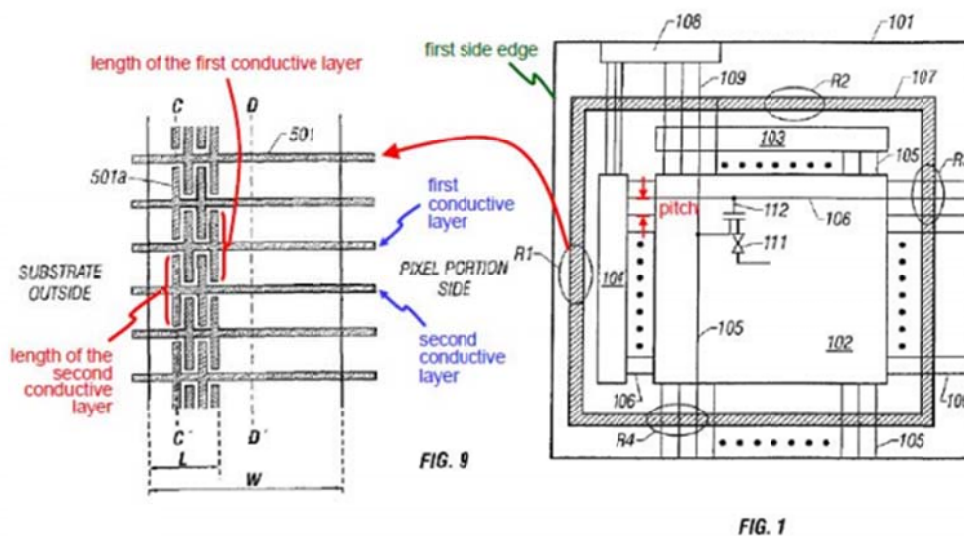


Figure 1 *supra* represents the top view of the lower substrate of an exemplary LCD device which incorporates, into the area R1 under seal 107, the dummy wiring structures depicted in adjacent Figure 9. (*See Prelim. Resp.* 14-16.)

As indicated *supra*, these dummy wiring structures render the seal and the consequent substrate-to-substrate gap more even. (*See also Prelim. Resp.* 14-16 (SEL discussing the '978 patent invention).) Claims 7 and 17 do not specifically recite dummy structures, but the claims require apparent similar functional

structure essentially as follows: a portion of first and second isolated conductive layers overlapped with a sealing member which extend longer than a pitch of adjacent ones of a plurality of second conductive lines. (*See* Prelim. Resp. 15 and Figures 1 and 9 *supra.*)

B. Illustrative Claim

Claim 7 follows:

7. A display device comprising:

a first substrate having a first side edge extending in a first direction and a second side edge extending in a second direction orthogonal to the first direction;

a plurality of first conductive lines extending over the first substrate in the first direction;

a plurality of second conductive lines extending over the first substrate in the second direction;

an insulating film disposed between the plurality of first conductive lines and the plurality of second conductive lines;

a plurality of thin film transistors electrically connected to the plurality of first conductive lines and the plurality of second conductive lines;

a plurality of pixel electrodes electrically connected to the plurality of thin film transistors;

a second substrate opposed to the first substrate;

a sealing member disposed between the first substrate and the second substrate, the sealing member having a portion adjacent to the first side edge; and

at least first and second conductive layers formed from a same layer

as the plurality of second conductive lines, wherein at least a part of each of the first and second conductive layers is overlapped with the portion of the sealing member,

wherein a length of the first conductive layer along the first direction and a length of the second conductive layer along the first direction are longer than a pitch of adjacent ones of the plurality of second conductive lines,

wherein the first and second conductive layers are electrically isolated from both of the plurality of first conductive lines and the plurality of second conductive lines, and

wherein the first and second conductive layers are electrically isolated from each other.

C. Prior Proceedings

The '978 patent is involved with other related patents in infringement litigation styled as *Semiconductor Energy Laboratory Co., Ltd. v. Chimei Innolux Corp., et al.*, SACV12-0021-JST (C.D. Cal.) (filed Jan. 5, 2012) [hereinafter the CMI Case]. (Pet. 2; Prelim. Resp. 4; Ex. 2001.)

D. The Asserted Grounds

CMI asserts the following three obviousness grounds of unpatentability under 35 U.S.C. § 103:

Claims 7 and 17 based on Sono, U.S. 5,513,028 (Apr. 30, 1996).

Claims 7 and 17 based on asserted admitted prior art in the '978 patent and elsewhere of record described further below ("Admitted Art"), and Sono.

Claims 7 and 17 based on the asserted Admitted Art, Sono, and Watanabe, U.S. 5,504,601 (Apr. 2, 1996).

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