UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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INNOLUX CORPORATION
Petitioner,


v.


SEMICONDUCTOR ENERGY LABORATORY CO., LTD.
Patent Owner.

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Case IPR2013-00038
U.S. Patent 7,956,978

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## PETITIONER'S REPLY TO RESPONSE OF THE PATENT OWNER

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# EXHIBIT LIST

## Previously Filed

Exhibit 1003          U.S. Patent No. 5,513,028 to Sono et al. 1004.

Exhibit 1004          U.S. Patent No. 5,504,601 to Watanabe et al.

Exhibit 1005          Declaration of Miltiadis Hatalis, Ph.D.

Exhibit 2011          Declaration of Roger G. Stewart


## Currently Filed

Exhibit 1012          Deposition transcript of Miltiadis Hatalis, Ph.D. dated May 20, 2013

Exhibit 1013          Declaration of Miltiadis Hatalis, Ph.D. in support of Innolux Corp.'s Opposition to Amendment and Reply

Exhibit 1014          Deposition transcript of Roger G. Stewart dated August 22, 2013

Petitioner Innolux Corporation ("Innolux") hereby provides its reply to Patent Owner Semiconductor Energy Laboratory Co., Ltd.'s ("SEL" or "Patent Owner") response to the Decision to Initiate Trial for Inter Partes Review of claims 7 and 17 of United States Patent No. 7,956,978 ("the '978 Patent").

## I.      Claim 7 and 17 of the '978 Patent are Unpatentable Over Sono

### A.      Sono discloses first and second conductive layers

Sono teaches making the peripheral circuits (i.e. scanning, driving and dummy circuits 72-75) the same to achieve a uniform substrate-to-substrate gap claimed in the '978 patent. These peripheral circuits are made in the "same process," with the "same step" and, as shown in Figures 7 and 8, have the same physical layout dimensions. *See* Deposition transcript of Miltiadis Hatalis, Ph.D. dated May 20, 2013 ("Ex. 1012") at 17:23-18:17 and 146:2-9; Ex. 1003, col. 5, ll. 6-11 and col. 6, ll. 28-37 ("[E]xcellent producibility is ensured because the dummy circuits 74, 75 can be prepared in a same process as for the peripheral scanning circuits 72, 73.").

Sono also teaches that "dummy pixels of a same configuration, having same wirings, switching elements, pixel electrodes etc. as in the display area…." Ex. 1003, col. 3, ll. 17-27. While Petitioner does not rely on the dummy pixels of Sono for the disclosure of the claimed "first and second conductive lines," someone of ordinary skill in the art would understand that Sono's disclosure of making the dummy pixels exactly the same as the actual pixels would apply to creating dummy

circuits exactly the same as the real circuits. Declaration of Miltiadis Hatalis, Ph.D. in support of Innolux Corp.'s Opposition to Amendment ("Ex. 1013"), ¶¶ 35-39.

Dr. Hatalis testified that a person of ordinary skill in the art would understand that the peripheral dummy circuit area includes long conductive layer runs along dummy shift register circuits, based on Sono's teaching that the dummy circuits mirror the peripheral shift register circuits 72 and 73. Ex. 1005, ¶¶ 25, 38, 39; *see also* Ex. 1012 at 16:18-18:17; Ex. 1013, ¶¶ 41, 43-45. SEL's expert agreed that it was known to use shift registers as drive circuits. Deposition transcript of Roger G. Stewart dated August 22, 2013 ("Ex. 1014") at 209:19-210:4. And, that such shift registers have long conductive layer runs including power lines, ground lines and clock lines. Ex. 1012 at 60:18-65:24 and 130:4-21; Ex. 1013, ¶¶ 43-45; Ex. 1014 at 98:5-100:20. Mr. Stewart illustrated the long conductive runs contained in shift registers and agreed that these wirings span the length of the display. *See* Ex. 2011 at p.44, ¶ 100 (showing long conductive runs contained in the shift registers); Ex. 1014 at 98:5-100:20. These long conductive layer runs serve as the claimed first conductive layer (*e.g.*, power line or Clock 1 line) and the second conductive layer (*e.g.*, ground line or Clock 2 line). Ex. 1012 at 60:18-65:24 and 130:4-21.

SEL argues that one of ordinary skill in the art would understand that forming the dummy circuits to have the "same step" means that they would have the same height under the sealant as scanning circuits 72 and 73, *but not necessarily* the same configuration. Resp. at 23. In doing so, SEL ignores Sono's express teaching that

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