Noble Image Sticking Evaluation Method By Image Failure Analysis System For TFT-LCD Panel

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We present the new quantitative and objective method that minimizes the gap of the test results among companies. Image Failure Analysis System measures TFT-LCD Panel by pixel. The levels of Image Sticking are evaluated by the difference between the intensity of transmitted light at half gray after full white driving and that of transmitted light at half gray after full black driving.

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I would like to give a poster presentation at the conference.

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Because of the rapid development of TFT-LCD technology and the higher competition among TFT-LCD manufacturers, the quality requirements of customers are getting higher and higher. The Image Sticking is one of problems to be solved by the TFT-LCD industry.

Visual Inspection (Human eye test) of TFT-LCD Module is widely used in Image Sticking evaluation.
While TFT-LCD Module is running in the Image Sticking pattern for a specified period of time, appraisers can usually judge how long the pattern remains after signals turn to half gray.
The result of visual inspection greatly depends upon the skill of appraisers and upon a test environment. Therefore no one exactly determines the reasons of Image sticking because various factors in the Panel, Circuit and Optical system may influence the result.

So, we present the new quantitative and objective method that minimizes the gap of the test results among companies. Image Failure Analysis System measures TFT-LCD Panel by pixel. The levels of Image Sticking are evaluated by the difference between the intensity of transmitted light at half gray after full white driving and that of transmitted light at half gray after full black driving. The difference in light intensity indicates that the residual DC component will play a major role of Image Sticking in a panel.

By using the new method, we can quantify the levels of the Image Sticking and can save test time and money. In addition, this method also helps further analysis of the Image Sticking and reduces the gap of the different opinions judging the test results.