

# Resolution for Tablet PCs Improves, with Large-Area LCDs Forecast to Reach 200 ppi in 2012

General Electric

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### Low-Cost Direct Type LED Backlights for LCD TV Panels to Emerge in 2012

**SANTA CLARA, Calif., November 29, 2011** According to the NPD DisplaySearch [Quarterly Large-Area TFT LCD Shipment Report Advanced LED \[1\]](#), two important large-area TFT LCD trends are on the horizon: higher resolution tablet PC panels and the emergence of low-cost direct type LED-backlit panels.

The NPD DisplaySearch shipment forecast indicates that the average resolution of tablet PC displays will grow to more than 200 pixels per inch (ppi) in Q212. Q112 will be the first quarter that LED backlights (including edge and direct type) will account for more than half of total LCD TV panel shipments. In addition, low-cost direct type LED backlights will capture 5% of LCD TV panel shipments in Q312.

The TFT LCD industry is undergoing some extraordinary changes in regards to high resolution and LED backlights for tablet PC panels. Rapid growth in multimedia usage of tablet PCs is driving panel makers to upgrade the resolution of tablet PC panels, noted David Hsieh, Vice President, Greater China Market, NPD DisplaySearch. At the same time, the rapidly growing LCD TV market in emerging countries is encouraging panel makers to develop fit spec products, such as low-cost direct type LED-backlit panels, which have a similar structure to traditional CCFL models, but consume less power, Hsieh added.

Hsieh continued, While there are many technical challenges in developing high resolution tablet PC panels, high resolution and slim type displays can help panel makers raise their ASPs. Alternately, low-cost direct type LED backlights can help panel makers reduce panel prices.

The launch of higher resolution displays in tablets, such as 10.1 1920 × 1200 and 9.7 2048 × 1536, expected at the end of 2011, will drive average tablet PC resolution to more than 200 ppi in Q212. The average resolution of all large-area TFT LCDs will surpass 100 ppi in Q112 and 110 ppi in Q312.

**Table 1: Large-Area TFT LCD Resolution Trends (ppi)**

Application	Q211	Q311	Q411	Q112	Q212	Q312
Monitor	92	92	93	93	93	93

Notebook PC	110	110	110	110	111	111
Mini-Note	119	120	120	121	122	122
Tablet	134	136	147	191	203	212
TV	58	57	56	56	56	55
Large-Area Average	92	93	94	101	106	110

Source: NPD DisplaySearch [Quarterly Large-Area TFT LCD Shipment Report Advanced LED \[1\]](#)

### LED Backlights for LCD TV Panels Achieve 39% Market Penetration

LED backlight penetration in LCD TV panel shipments reached 39% in Q311. Penetration is forecast to surpass 50% in Q212 and reach 53% in Q312. The main drivers for LED backlight penetration include lower power consumption, slimmer form factors, and environmental friendliness (no mercury). Many panel makers are developing low-cost direct type LED backlights, trading off panel thickness for cost, but still gaining the advantages of LEDs. Some panel makers are using direct type LED backlights in new sizes such as 39 and 50 in order to provide value models in developing markets.

**Table 2: LCD TV Panel Shipment Percentage by Backlight Type**

Backlight Type	Q211	Q311	Q411	Q112	Q212	Q312
CCFL	63%	61%	56%	50%	47%	47%
Direct Type LED	1%	1%	1%	3%	4%	5%
Edge Type LED	36%	38%	43%	47%	49%	48%

Source: NPD DisplaySearch [Quarterly Large-Area TFT LCD Shipment Report Advanced LED \[1\]](#)

The NPD DisplaySearch [Quarterly Large-Area TFT LCD Shipment Report \[1\]](#) covers the entire range of large-area panels shipped worldwide and regionally. This report analyzes historical shipments and forecast projections with 100% coverage of panel makers. Authored by industry experts, the [Quarterly Large-Area TFT LCD Shipment](#)

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Published on Electronic Component News (<http://www.ecnmag.com>)

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[Report \[1\]](#) provides some of the industrys most detailed information and insights. It is delivered in PowerPoint and includes Excel-based data and tables. For more information on this report, please contact Charles Camaroto at 1.888.436.7673 or 1.516.625.2452, or [contact@displaysearch.com](mailto:contact@displaysearch.com) [2] or contact your regional DisplaySearch office in China, Japan, Korea or Taiwan.

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