

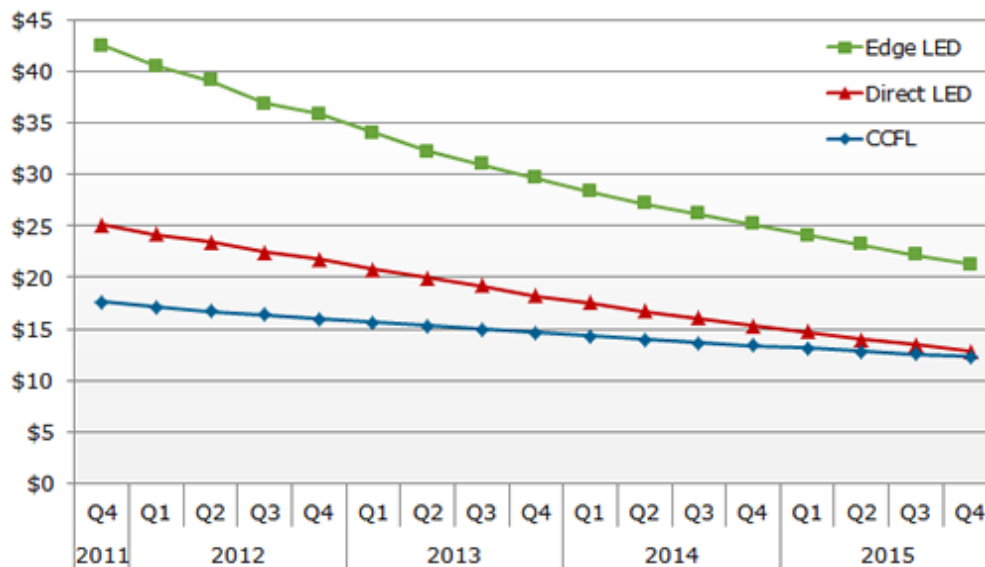
Low-Cost Direct LED Backlights to Reduce Premium for LED-Backlit LCD TVs

Santa Clara, Calif., January 18, 2012—Due to lower-than-expected consumer adoption of LED-backlit LCD TVs, TV makers have changed their strategy to develop a product that utilizes less power and lowers costs. According to the recently-released NPD DisplaySearch [Quarterly LED Backlight Report](#), set makers are reducing the number of LEDs per TV set. In turn, this also lowers brightness and moves away from the slim designs and higher picture quality that have been characteristic traits of LED-backlit LCD TVs.

“LED penetration in LCD TV was 7 points lower than our forecast a year ago, mainly due to high LED premiums. The premium for a LED backlight in a 32” LCD TV was 42% in Q4’11, although it had been expected to fall to 27%,” said [Yoshio Tamura](#), Senior Vice President, NPD DisplaySearch. “Therefore, TV makers are changing their strategies on direct LED-backlit TV. Instead of high picture quality, set makers have chosen low-power consumption with a corresponding lower price as selling points for this new type of LED-backlit TV. This will increase its competitiveness with CCFL-backlit LCD TV and even CRT TV.”

The materials cost for direct LED backlights comes closer to that of CCFL backlights. NPD DisplaySearch estimates that for 32” LCD TVs, direct LED backlights cost 1.3-1.4 times CCFL backlights, as opposed to edge-lit LED backlights, which are estimated to cost more than twice as much as CCFL backlights. For 40” LCD TVs, the savings could be even greater, with low-cost direct backlights cutting nearly \$40 in material costs, which could result in as much as \$100 in savings at retail.

Figure 1: Backlight Cost Forecasts for 32” HD 60 Hz LCD TV Panel

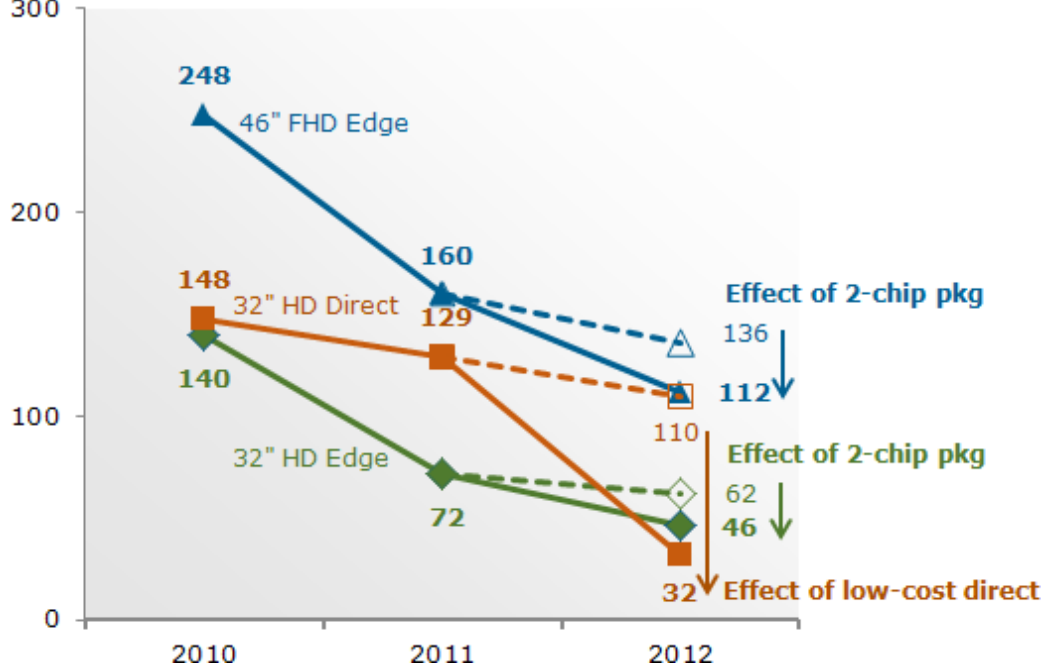


Source: NPD DisplaySearch [Quarterly LED & CCFL Backlight Cost Report](#)

The cost savings come from using roughly half as many LEDs, as well as the replacement of light guide plates, optical film, and other materials with lower cost diffuser plates and lens structures on the LEDs. The reduction in LEDs and other materials lowers power consumption, but requires a thicker profile. Brightness is lowered to 300 nits as opposed to 450 nits for edge-lit LED or CCFL, and lack of dimming reduces the contrast ratio and image quality.

TV makers have been adopting 2-chip LED packages to reduce the number of packages and to reduce optical film use. The number of LED packages used per set with direct backlights is expected to be less than that of sets with edge backlights.

Figure 2: Forecast of LED Packages per Set for TVs



Source: NPD DisplaySearch [Quarterly LED Backlight Report](#)

The NPD DisplaySearch [Quarterly LED Backlight Report](#) is a quarterly update of the entire value chain for large-sized TFT LCD backlight units. The report features expert analysis of the latest technological developments and industry news, as well as price trends, supply/demand, cost structures and more. The NPD DisplaySearch [Quarterly LED & CCFL Backlight Cost Report](#) tracks historical and forecasted costs and pricing in every size screen for every application, including the backlight unit. Based on actual costs, the report monitors trends in material costs, optical film costs, bezel and frame costs or overhead costs. For more information on these reports, please contact Charles Camaroto at 1.888.436.7673 or 1.516.625.2452, or contact@displaysearch.com or contact your [regional DisplaySearch office](#) in China, Japan, Korea or Taiwan.

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