

Samsung demonstrates 10.1-inch, 300dpi WQXGA penTile RGBW prototype tablet display

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At the SID Display Week 2011 International Symposium May 17-19, Samsung Electronics is demonstrating the industry's first 10.1-inch WQXGA (2560 x 1600) format PenTile RGBW tablet display, an ultra-high resolution, liquid crystal display (LCD). The prototype demonstration marks the first time this resolution has been available for the tablet market in the popular – 10.1-inch – format, rivaling the highest resolution smartphone displays now on the market. Samsung expects to have commercial availability of this technology for tablet applications later this year.

Because tablets are regularly used for viewing rich-colored images, the 10.1-inch 300 dpi [display](#) is ideal for applications that require extraordinary image and text clarity such as browsing the web and viewing high-definition movies, or reading books and spreadsheets.

“In order to develop tablets with the form and function that consumers demand, a design engineer ultimately has to determine how to get the highest resolution display possible, while still fitting within the overall power budget for their design,” said Joel Pollack, executive vice president of Nouvoyance, Samsung's affiliate company that developed the PenTile RGBW technology.

Lightness and power efficiency of the display are critical factors since higher resolution displays typically draw more power.

“Samsung’s PenTile [display technology](#) is the only display technology that operates at 40 percent less power yet provides twice that of Full HD-viewing performance for consumers compared to legacy RGB stripe LCDs. There is no other commercial display technology on the market today that offers this high of a resolution and pixel density in a 10.1-inch size display,” said Dr. Sungtae Shin, Senior VP of [Samsung Electronics](#).

PenTile RGBW WQXGA Technology Highlights

- This 10.1-inch tablet panel is capable of 300 cd/m^2 of luminance, yet uses 40 percent less power than that used by legacy RGB stripe LCDs in power-saving modes.
- An outdoor brightness mode of as much as 600 cd/m^2 luminance enables viewing in bright ambient lighting.
- The display’s color gamut is 72 percent., allowing greater color realism than legacy RGB stripe tablet displays that have a typical color gamut of 55 percent NTSC.
- PenTile technology achieves 300 dpi resolution with two-thirds the number of subpixels, maintaining the VESA/ICDM display [resolution](#) standard.

Source: Samsung

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