

## **Epson Offers Display Controller IC Reference Design**

- **Significantly shorter development time and lower cost evaluation environment** -

- Munich, May 10, 2012 –

Seiko Epson Corporation (“Epson,” TSE: 6724) will start supplying its first display controller IC reference design from April to support the development of products with small and medium-sized LCD panels. The reference design includes an evaluation board with a display controller IC and sample software for driving the controller.

When developing products with small or medium-sized LCD panels for factory automation, measurement, medical, commercial and other special applications, customers need to connect a display controller IC, microcontroller and LCD panel, run the evaluation, and optimize the setup. However, connecting the components and evaluating them requires careful reading of various manuals and development of custom software among the devices. This takes time and money. To address such issues, Epson developed a display controller IC reference design that simplifies the connections and evaluation. In addition to an evaluation board for the display controller IC, the reference design includes free sample software that works with the microcontroller and the LCD panel, providing strong support for the development of products that use panels.

As the first version of this reference design, Epson will begin selling the new S5U13781R00C100 evaluation board, which features the Epson S1D13781 display controller IC with support for full color (24 bpp) and resolutions up to 480 x 272, through online shops from April. The price of this new evaluation board is approximately one-fifth that of previous Epson evaluation boards with the S1D13781, enabling significantly lower development costs.

A common sample software package, which is also capable of driving small and medium-sized TFT LCD panels from various manufacturers on the STM32VL-Discovery evaluation board with the STM32<sup>®</sup> 32-bit microcontroller based on the Cortex<sup>™</sup>-M3 from STMicroelectronics, can be downloaded for free from Epson’s web page.

Customers can easily get their small or medium-sized TFT LCD panels working by simply connecting them with the evaluation board from Epson or ST and downloading the common sample software package. This opens the door to low-cost development of products that use a small or medium-sized color TFT LCD panel while also offering significantly shorter development time.

“Going forward, Epson will continue to release display controller IC reference designs,” said Masayuki Morizumi, Executive Vice President and Chief Operating Officer of Epson’s Microdevices Operations Division. “These will support higher resolution small and medium-sized TFT LCD panels and evaluation boards with other microcontrollers. Such designs, combined with expanded sales channels, will provide an environment that makes it easier than ever for customers to find what they need.”

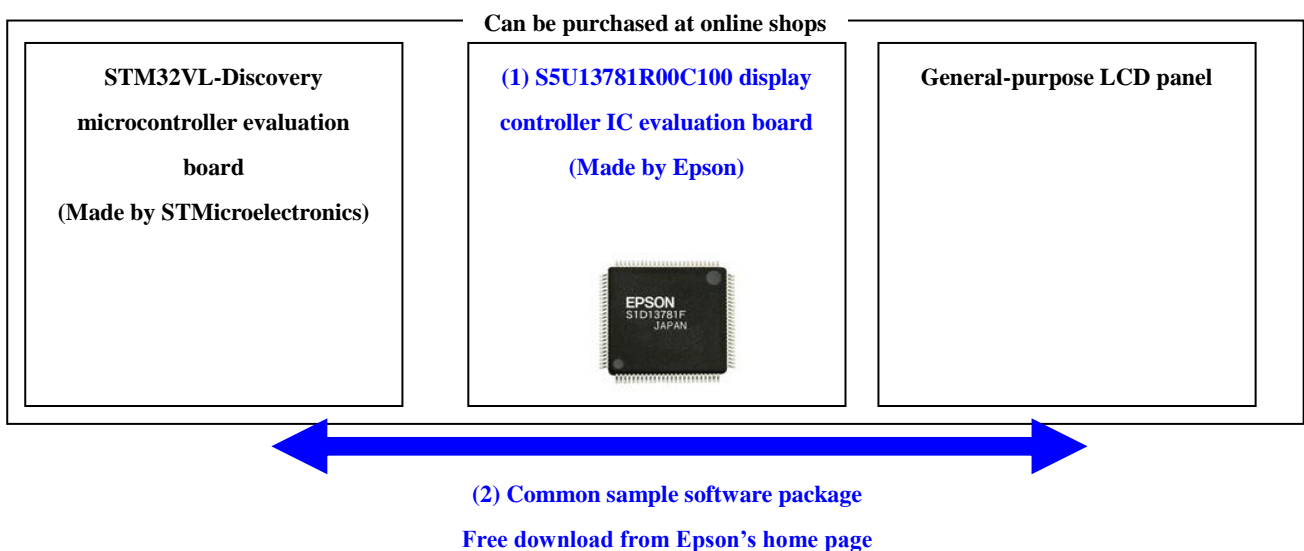
[Specifications and more information about the display controller IC reference design.](#)

## About the Display Controller IC Reference Design

Epson’s display controller IC reference design includes: 1) a display controller IC evaluation board, and 2) a common sample software package.

The reference design can be purchased at various online shops along with a microcontroller evaluation board and an LCD panel. Then by using the common sample software package downloaded for free from Epson’s home page, customers can easily perform the evaluations needed to develop a product with an LCD panel.

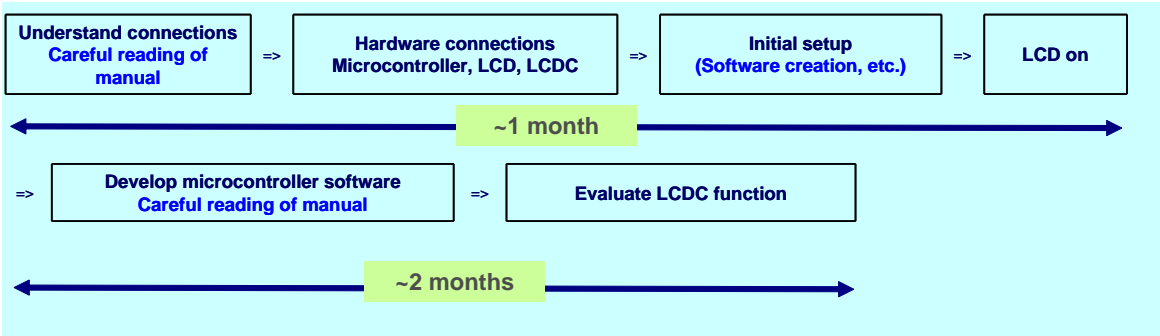
Performing evaluations using Epson’s S5U13781R00C100 display controller IC evaluation board



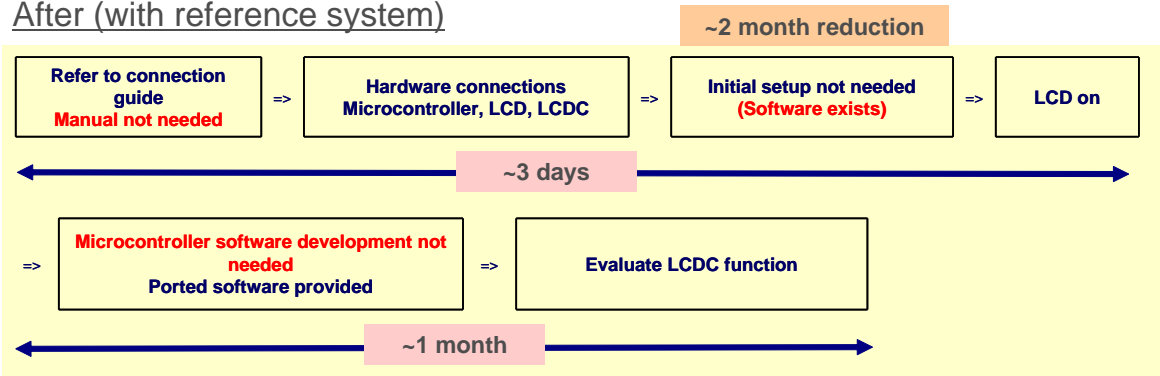
Product website: [http://www.epson.jp/device/semicon\\_e/product/lcd\\_controllers/](http://www.epson.jp/device/semicon_e/product/lcd_controllers/)

**Image of how using the reference design leads to shorter development time**

Before (without reference system)



After (with reference system)



See the attachment for an outline of the reference design specifications.

**Specifications**

Main specifications of S5U13781R00C100 display controller IC (S1D13781) evaluation board

Product number	S5U13781R00C100
Contents supplied	Board
Included display controller IC	S1D13781 (QFP15-100 pin: 0.5 mm pitch)
Supply voltage	Single 3.3V ±0.3V
Clock	24 MHz Epson Toyocom crystal oscillator included
Connection to microcontroller evaluation board	8/16-bit parallel bus and serial (SPI)
Connection to LCD panel	0.5 mm pitch 55 pin FPC connector and 2.54 mm pitch conversion board included
LCD panel backlight power source	White LED driver included (Max. 38V/60 mA with 5V input)
Flash memory for image data storage	16 Mbit SPI Flash included



Dimensions	70 x 60 mm
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\*Specifications are subject to change without notice.

### **About Epson Europe Electronics GmbH**

Epson Europe Electronics GmbH is a marketing, engineering and sales company and the European Headquarters for electronic devices of the Seiko Epson Corporation, Japan.

Since 1989 headquartered in Munich/Germany with 60 employees, Epson Europe Electronics GmbH has several European sales representatives and has a European-wide network of distributors. Epson Europe Electronics provides value added services for Semiconductors and Quartz Devices targeted to the mobile communication, automotive and home visual market. Epson products are recognized for energy saving, low power, small form factors and rapid time to market. Information about Epson Europe Electronics GmbH is available in the Internet under [www.epson-electronics.de](http://www.epson-electronics.de)

### **About Epson**

Epson is a global imaging and innovation leader that is dedicated to exceeding the vision of customers worldwide through its compact, energy-saving, high-precision technologies, with a product line-up ranging from printers and 3LCD projectors for enterprise and the home, to sensors and other microdevices.

Led by the Japan-based Seiko Epson Corporation, the Epson Group comprises more than 78,000 employees in 99 companies around the world, and is proud of its ongoing contributions to the global environment and the communities in which it operates.

<http://global.epson.com/>

### **Further information**

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