



## **FTDI Releases USB Host IC Optimised for Android Platforms**

*Advanced single chip USB host bridge supports wide variety of standardised interfaces*

Future Technology Devices International Limited (FTDI) continues to encourage the progression of the Android Open Accessories initiative, with the introduction of its FT311D. This new USB Full Speed (12 Mbit/s) host IC is specifically targeted at providing Android platforms, such as tablet PCs or smartphones, with interconnectivity to end product systems through the utilization of USB technology.

Google unveiled the Android Open Accessories initiative a little over a year ago. The specification uses industry standard USB technology with an additional enumeration step. As a result the USB connection allows the Android platform to function as a USB slave/peripheral. This eliminates the need to source power, store class drivers, and support the USB host stack, which has responsibility for controlling the USB bus. In the end, the USB host functions are now relegated to the end product which is connecting to the Android platform.

Running off a standard 3.3 V supply and drawing a current of just 25 mA in full operation at 48 MHz and 128  $\mu$ A while in standby mode, the FT311D has the capacity to bridge the USB port to six different user selectable interface types,

namely GPIO, UART, PWM, I<sup>2</sup>C master, SPI slave and SPI master. It can be utilised in conjunction with any platform that supports the Android Open Accessory mode (typically Version 3.1 of the Android operating system onwards, though some platforms may back-port Open Accessory mode to Version 2.3.4).

When the IC's peripheral interface is configured in UART mode, the interface implements a basic asynchronous serial UART port with flow control. The FT311D's UART can support data rates of between 300 bit/s and 6 Mbit/s, while its I<sup>2</sup>C master interface can connect to I<sup>2</sup>C slave interfaces supporting speeds of up to 125 kbit/s. The interface can also be configured to provide 4 pulse width modulation (PWM) outputs. These can be used to generate PWM signals for controlling the motors, actuators, sensors, DC/DC converters and AC/DC supplies found in such systems, as toys, lighting applications, home automation, and industrial equipment.

A development module (UMFT311EV) based on the FT311D is also available. With board dimensions of 68.58 mm x 55.38 mm x 14.00 mm, this is intended for use as a hardware platform to enable easy evaluation of the IC and allow engineers to develop a broad range of Android Open Accessory compliant applications. Selection of the desired interface mode is done using a series of jumpers. This module is complemented by a 66.60 mm x 55.38 mm x 22 mm form factor GPIO shield board (UMFT311GP), which has push button keypad that acts as a user input and a set of 8 LED emitters which can be deployed to illustrate an active output.

“With this new host IC, we have strengthened our portfolio of Android related products for engineers to explore the new possibilities that the Open Accessories mode offers,” states the company's CEO and founder Fred Dart,

“Through this chip, plus our development tools, software and application support, our goal is to make USB host integration into customers’ end products as easy as it is our R and X-Chip series devices.”

The FT311D is supplied in 32 pin QFN and LQFP package options. These ICs have an operational temperature range that covers -40 °C to 85 °C.

Pricing for the FT311D starts at \$3.53 (for 10-49 pcs). The UMFT311EV development module is priced at \$31.95 and the UMFT311GP GPIO shield is priced at \$24.75.

Further information on these products can be found at:

FT311D

[http://www.ftdichip.com/Support/Documents/DataSheets/ICs/DS\\_FT311D.pdf](http://www.ftdichip.com/Support/Documents/DataSheets/ICs/DS_FT311D.pdf)

UMFT311EV

[http://www.ftdichip.com/Support/Documents/DataSheets/Modules/DS\\_UMFT311EV.pdf](http://www.ftdichip.com/Support/Documents/DataSheets/Modules/DS_UMFT311EV.pdf)

UMFT311GP

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#### **About FTDI**

Future Technology Devices International (FTDI) specialises in the design and supply of silicon and software solutions for the Universal Serial Bus (USB). FTDI offers a simple route to USB migration by combining easy-to-implement IC devices with proven, ready-to-use, royalty-free USB firmware and driver software. The company’s single and multi-channel USB peripheral devices come with an easy-to-use UART or FIFO interface. These popular devices can be used in legacy USB-to-RS232/RS422 converter applications or to quickly interface an MCU, PLD, or FPGA to USB. A wide range of evaluation kits and modules are available to evaluate FTDI’s silicon prior to design-in. Vinculum is FTDI’s brand name for a range of USB Host/Slave controller ICs that provide easy implementation of USB Host controller functionality within products and use FTDI’s tried and tested firmware to significantly reduce development costs and time to market. FTDI is a fab-less

semiconductor company headquartered in Glasgow, UK with R&D centres in Glasgow and Singapore and has regional sales offices in Oregon, USA, Shanghai, China and Taipei, Taiwan.

More information is available at <http://www.ftdichip.com>

Regional sales offices and distributor lists are available  
<http://www.ftdichip.com/FTSalesNetwork.htm>

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