FTDI Announces Ecosystem to Accompany 8-bit FT51A MCU

New modules highlight features & functionality available on connectivity-packed, 8051-compatible device

6th January 2016 - In order to support its FT51A microcontroller unit (MCU), which is now in full production, FTDI Chip has introduced an array of board levels products. Through these, engineers will be able to become more familiar with this MCU platform - seeing just how versatile it is and gauging the performance it delivers, before putting their first prototypes into action.

The processing core of the FT51A MCU executes an 8051 feature set (capable of running at 48MHz). Along with this, it possesses a wide array of interfaces - including USB client, UART, SPI, I^{2}C, 245 FIFO, PWM and GPIO options. The USB hub feature, which is completely unique to this IC, allows multiple USB-enabled devices to be cascaded or combined with one another. The FT51Aøs data conversion capabilities comprise of an 8-bit ADC. Its 16kB shadow RAM accelerates read access of the core, thereby heightening throughput levels. Low power operation is another key characteristic of this device, with it only drawing 20mA (typical) while active and 150µA (typical) when in suspend mode

The objective of the FT51A-EVM evaluation module is to furnish engineers with a multitude of different functions through which they can get a better

understanding of the FT51A MCUøs application parameters – in particular its suitability for multi-sensor circuits. The module incorporates a 20x2 character LCD display (with an RGB backlight) plus a series of different sensor mechanisms through which various forms of data can be acquired. There is a heart-rate monitor (with filtered and amplified analogue output), a force sensitive resistor (which can measure the pressure applied by the userøs finger) and a SPI-enabled temperature sensor. The upstream and downstream USB ports permits cascading of multiple units. The module comes preloaded with dedicated firmware – allowing the full scope of the FT51Aøs functionality to be benefited from while avoiding the need to create any code. Provision has been made within the modules IOs for communication with FTDIøs FT800 Embedded Video Engine (EVE) modules, so that more sophisticated human machine interfaces can be added if necessary.

Housed within a 40-pin dual-in-line (DIP) package, the UMFT51AA likewise features an FT51A MCU with its extensive array of IOs, plus 8-bit ADC functionality. This compact module provides engineers with is a drop-in replacement for legacy 8051 MCUs via a DIP socket. The built-in USB A socket/plug allows the module to be connected up to a PC via a standard A extension cable or directly. As with the FT51A-EVM, this module is also capable of cascading units together, thanks to the FT51Aøs USB hub feature. Both these modules have a debugger interface header for FT51A debugging/programming purposes.

The FTPD-1 is a credit card sized programmer/debugger module which accompanies the UMFT51AA and FT51A-EVM. Through its FT230X USB-to-UART conversion IC and dual buffer it can generate a single line half-duplex UART signal with no handshake. This enables the FT51A MCU to be programmed in a quick and easy manner.

"We see embedded engineers with all different degrees of experience looking to use the FT51A in their designs. By showcasing the capabilities of this MCU, these new modules give engineers all the external hardware they need to gain greater confidence in using this MCU, explore the possibilities it offers unleash its full potential,ö states FTDI Chip CEO and Founder, Fred Dart. õWhether you're a hobbyist, a newly qualified engineer or a seasoned professional who has a tight deadline, these boards and the IDE that supports them can prove to be invaluable."

For more information on the FT51A, its supporting modules and IDE visit: www.ftdichip.com/ft51a