Software Tool Takes Guesswork out of Battery Life Predictions

Energy Micro, the energy friendly microcontroller and radio company, has introduced a software tool enabling designers to accurately predict battery cell life expectancy in applications based on its low power EFM32 Gecko microcontrollers. Called the energyAware(TM) Battery Estimator, this free tool provides a full simulation of total system energy usage, that takes into account actual battery source, MCU energy modes, peripherals employed and external circuit components.

In simulation mode, system battery voltage output is displayed against time (years) in graph format, with the battery capacity rating (mAh), average MCU current consumption (µA) and estimated system operating time (years) shown numerically alongside. The set-up of a complete system simulation, its energy modes, their related operating times and associated peripheral functions and external component current consumption is via an intuitive GUI, comprising simple drop-down menus, slider bars and checkboxes.

Battery Estimator can today model the performance of the seven most popular battery cell types, arranged in single cell or user-defined multiple cell series- or parallel-connected configurations. The tool allows the selection and analysis of all five energy modes of the EFM32 Gecko MCU used with the complete range of low power peripheral functions available as well as high frequency and low frequency clocks. The facility to factor in the current consumption from any external power hungry components, such as LCDs or speakers for example, further increases the accuracy of the battery life prediction.

Available as a part of Energy Micro's comprehensive Simplicity Studio software console, that is aiming to halve the time it takes to develop a microcontroller application, the energyAware Battery Estimator tool also provides users with the ability to store complete simulation projects for future reference and to help save initial set-up time, also offers a quick-view demonstration mode to view and edit a pre-configured typical application simulation.

The energyAware Battery Estimator is available via the Simplicity Studio at: http://www.energymicro.com/software/simplicity-studio [1] and there's an introductory video to view at: http://www.energymicro.com/videos/videos [2]

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