Renesas introduces 32-bit RX21A group of microcontrollers with large memory capacity and built-in A/D converter

September 7 2012

Renesas Electronics RX21A Group of 32-Bit Microcontrollers for Smart Meters with Advanced Functionality

Renesas Electronics announced the RX21A Group of 32-bit microcontrollers (MCUs) for smart meters with advanced functionality. The new MCUs are the first in the industry to combine large flash memory capacity of 512 KB and a 24-bit delta-sigma (Delta-sigma) A/D converter for high-resolution measurement.

The RX21A Group of MCUs implements in a single chip functions that previously required separate devices, such as power measurement, meter control, calculation of electricity charges, and data encryption. This reduces the number of external components required and helps to lower

the overall cost. In addition, the RX21A Group includes product versions for a variety of meter models, allowing common and effective system design.

"As we continue to move toward a more [energy efficiency](#) society, "green" or "smart" solutions like smart meters will require innovative peripherals at the chip level which includes but is not limited to the high-precision analog, low [power consumption](#) and multiple connectivity options. In addition, customers would benefit from the unified set of peripheral drivers conforming to the [safety standards](#)," said Ritesh Tyagi, Senior Director, Microcontroller Products & Solutions Marketing, Renesas Electronics America. "The new RX21A group of MCUs represents the latest example of how Renesas brings smart design to these growing markets, leveraging our low-power and advanced technology roots."

Recently, the smart meter market has expanded rapidly with the spread of smart grids as a way to increase energy efficiency. It is estimated that more than 100 million smart meters will be in operation by 2014. The proliferation of smart meters has created demand for MCUs that provide, in addition to reduced power consumption, higher performance to support advanced functions such as complex power calculation, needed for time-of-day rate systems and other diverse power services in many countries, and strong security, including communication data protection and unauthorized access prevention, in addition to reduced power consumption. There is also a greater need for shorter development cycles and improved development efficiency for new meter models, which spurs the need for an extensive lineup of MCUs supporting a wide range of smart meter models. At the same time, the home energy management system (HEMS) market is growing rapidly, driving the trend toward MCUs with enhanced functionality and larger [memory capacity](#).

Renesas already mass produces 8-bit and 16-bit MCUs with on-chip Delta-sigma A/D converters for use in power meters with power calculation and ordinary billing capabilities. The RX21A Group of MCUs expands the product lineups to further meet the market demands. Renesas now offers a full range of Delta-sigma A/D converter-equipped MCU product lineups, allowing designers to scale from the low-end to high-end smart meters more easily.

Source: Renesas Electronics

Citation: Renesas introduces 32-bit RX21A group of microcontrollers with large memory capacity and built-in A/D converter (2012, September 7) retrieved 7 May 2024 from https://phys.org/news/2012-09-renesas-bit-rx21a-group-microcontrollers.html