The CS5463 enables digital power-meter manufacturers to provide highly accurate, cost-effective solutions for advanced power measurements. This new IC is an integrated power-measurement device that combines two Delta-Sigma A/D converters, high-speed power calculation functions, and a serial interface on a single chip.

Additional features include AC and DC calibration, extended phase compensation, and three configurable energy output pins. Designed for residential single-phase or industrial three-phase power-meter applications, the IC accurately measures instantaneous current and voltage while calculating instantaneous power, \( I_{RMS} \) and \( V_{RMS} \), real power, apparent power, reactive power, fundamental power, harmonic power, power factor, and line frequency.

The CS5463 is easy to design in as a pin-compatible upgrade to Cirrus Logic's popular CS5460A and CS5461A. It retains all the functionality of its predecessors, while also providing additional calculations and functionality. For communication with a microcontroller, the IC features a bi-directional serial interface, which is initialized and fully functional upon reset. The CS5463 can interface to a low-cost shunt resistor or transformer for current measurement and to a resistive divider or potential transformer for voltage measurement. The CS5463 delivers accurate power usage measurements and is ideal for electronic power-meter applications.