

Wireless M-Bus modules from Radiocrafts enables OMS metering systems

By Peder Martin Evjen, M.Sc.E.E., Managing Director, Radiocrafts AS

Radiocrafts is a leading provider of RF modules applying the Wireless M-Bus standard at 169 and 868 MHz for communication between electricity, gas, water and heat meters. The modules integrate the complete Wireless M-Bus protocol in a small low power device.

Radiocrafts is a member of OMS, a contributor to the standardization of Wireless M-Bus in CEN, and a pioneer in compact RF modules for the new standards. Radiocrafts modules have been used in some of the largest pilot installations of OMS based systems in Germany.

The modules have an UART interface for serial communication and configuration, and a one-pin antenna connection. The RC1180-MBUS3 module provides support for the operating modes S, T, C and R at 868 MHz. A unique feature is that the module can receive mode T and the new mode C in parallel.

The module handles AES-128 encryption and CMAC authentication, and supports the OMS specific Authentication and Fragmentation Layer (AFL) simplifying the implementation of TLS security, to meet the German BSI Protection Profile.

The RC1701HP-MBUS4 support mode N at 169 MHz, and is a narrowband module with up to 1W output power, targeting the smart gas and water meter market, meeting the new regulations in Italy and France.

A unique feature of the Radiocrafts modules is the handling of two-way communication with very strict timing requirements through an auto-message and mailbox message generator.

The modular design ensures regulations and protocol compliance, quick production volume ramp-up and full test of all RF parameters. The modules are certified and CE-marked, and delivered on tape&reel.