

## Radiocrafts – The Wireless M-Bus Experts



### Compact module with fully embedded protocol

- Embedded Wireless M-Bus protocol supporting EN 13757-4:2019 mode S, T, C, R and N
- Conforms with EU RED directive (EN 300 220, EN 301 489, EN 60950, EN 50581)
- Easy to use UART interface for communication and configuration
- 12.7 x 25.4 x 3.7 mm compact module for SMD mounting
- Wide supply voltage range, 2.1 – 3.8 V
- Ultra low power modes for extended battery lifetime
- 2 channels (868.3, 868.95 MHz) in mode S, T and C
- No external components except antenna
- Configurable Manufacturer ID and serial number
- Designed for EX compliance



***2 pins for data, 2 pins for power and 1 pin for antenna***

### Our most popular standard Wireless M-Bus modules

<b>RC1180-MBUS3</b>	<b>868 MHz Wireless M-Bus with OMS feature set</b> Two-way communication with automatic packet generation, AES-128 encryption
<b>RC1843-MBUS5</b>	<b>433 MHz Wireless M-Bus with OMS feature set</b>
<b>RC1883-MBUS5</b>	<b>868 MHz Wireless M-Bus with OMS feature set</b>

### Gateway features

Radiocrafts' modules are inside BSI-CC-PP certified gateways!

- Radiocrafts module is exceptional suited for gateway application
- Up to 512 Meters/slaves stored in module including encryption key which is non-readable/secured
- Packet parsing and processing
- Patented Mailbox feature for storing and sending prepared messages for meters
- Dual mode reception of C/T mode
- Fast responses
- Parallel handing of packets to ensure efficient reception and few dropped packets.
- Security profile A and B supported. Security mode C on roadmap.

Module	Mode	Output power [dBm]	Sensitivity [dBm]	TX Current [mA]	RX Current [mA]	Cellular Interference rejection		Sleep current [uA]
						Blocking 10 MHz [dBm]	Phase noise 10 MHz offset	
RC1180	Mode S	10	-102	37	24	-40	-129	0.3
	Mode C		-101					
	Mode T		-101					
RC1843	Mode S	14	-111	26	6	-35	-141	0.7
	Mode C		-106					
	Mode T		-105					
RC1883	Mode S	14	-111	26	6	-35	-140	0.7
	Mode C		-106					
	Mode T		-105					

## Turn-key projects

The RC18x3 modules are built on modern SoC platform with much resource available. With the modular firmware design, it offers a perfect platform for turn-key projects. This could include added application-oriented feature or other HW solution. Radiocrafts have successfully implemented several such project for top-tiers metering companies in the world.

To discuss how Radiocrafts can best support a turn-key project, please contact [sales@radiocrafts.com](mailto:sales@radiocrafts.com)

## Wireless M-Bus For Smart Metering

A large part of the Smart metering market requires battery operated meters. This means that the radio transmitters need to be extremely low power and be in “sleep mode” most of the time. The Radiocrafts’ Wireless M-Bus modules are designed for very low power consumption and meet and exceed those challenging requirements..



Radiocrafts is working together with some of the top-tier companies in the metering industry, providing compact RF modules and complete integrated products for Wireless M-Bus. The RC1180-MBUS3 has been used in some of the largest pilot installations for OMS compliant systems in Germany and used in BSI certified Smart Meter Gateways. Radiocrafts has been a pioneer in the introduction of 169 MHz for metering applications and drafted the new EN 13757-4 mode N specification that is now fully deployed.

Radiocrafts actively participates in the development of the international standards for wireless meter reading, taking part in the OMS standardisation work based in Germany, as well as several working groups in CEN TC294 defining the European M-Bus standard.