

M-BUS RF click



PID: MIKROE-2048

RS Product Code: [136-0784](#)

M-BUS RF click is a mikroBUS™ add-on board with a Telit ME70-169 RF wireless module. The radio operates at the unlicensed ISM frequency band between 169.400 and 169.475 MHz. The device is compliant with EN13757 part 4 2013

The module has specified serial data rates of up to 115.2 Kbps and radio data rates of 2.4, 4.8 and 19.2 kbps. For security, the wireless signal has AES and NRZ encryption. Output power is from 125 mW to 631 mV (28dBm). According to the vendor's data sheet, the module has wireless range of up to 20 km.

Short for Meter-Bus, this protocol was designed for the remote reading of gas or electricity meters, but it's also suitable for alarm systems, illumination installations, heating control and more.

M-BUS RF click communicates with the target MCU through the mikroBUS™ UART interface, with additional functionality provided by RESET, RTS, and CTS pins. The board is designed to use a 3.3 power supply only.

Specification

Product Type	RF Sub 1GHz
Applications	Wireless M-BUS was designed for gas and water meter applications
On-board modules	Telit ME70-169 RF
Key Features	Data rates: 115.2 Kbps serial; 2.4, 4.8 and 19.2 kbps radio
Key Benefits	Specified range of up to 20km, Wide area coverage
Interface	UART
Power Supply	3.3V
Compatibility	mikroBUS
Click board size	L (57.15 x 25.4 mm)
Weight	30g

Features and usage notes

According to the vendor's data sheet, the module has wireless range of up to 20 km (an external antenna is required).

Short for Meter-Bus, this protocol was designed for remote reading of gas or electricity meters in Europe, but it's also suitable for alarm systems, illumination installations, heating control and more.

Devices that communicate with wireless M-Bus modules are classified as either meters or 'other' devices. There is a total of six different M-Bus modes:

- Mode S 'Stationary
- Mode T 'frequent Transmit
- Mode R2 'frequent Receive
- Mode C 'Compact
- Mode N 'Narrowband VHF
- Mode F 'Frequent receive and transmit
- The working of all six modes is explained in detail in the learn.mikroe.com article on M-Bus.

Telit also provides a M-Bus guide which provides an [Learn](#) article explaining the MikroElektronika M-BUS library overview of the standard.

Programming

For an example to set the M-Bus up for transmitting some data with a length field activated refer to Mikroe.com

Code examples that demonstrate the usage of LED Ring click with MikroElektronika hardware, written for mikroC for ARM, PIC, and FT90x are available on Libstock.

Downloads

[M-BUS RF click Examples](#)

[M-BUS RF click Schematic](#)