

Wireless M-Bus Module

25mW / -117dBm / 1000m range



High-performance, long-range radio module with embedded **M-Bus** protocol, for data exchange in stationary and mobile systems between gas, water, heat, electricity meters and concentrators.

The Wireless M-Bus module

With its unrivaled performance (RF sensitivity **-117dBm** / link budget **131dB**), our Wireless M-Bus module enables a **two-way digital link** over a **range of 1000m**.

It embeds a «**FULL**» **M-Bus stack** and an **applicative firmware**, integrating the «**meter**» and «**other**» (**gateway**) profiles.

Interoperable and compatible with other Wireless M-Bus devices, it offers a **total modularity**. Interfacing is performed via GPIO and/or serial interface.

This pre-certified product is compliant with **EN13757-4:2005** standard. Operating in **12 channels** on the **868/870MHz band**, it can be used **without a licence** and is certifiable according to the European RTTE Directive.

Its ease of integration, even for non RF specialists, thus limits technological risks and **reduces development time and costs**.

This module cover most metering applications requiring short-range Mbus-based communication: meters and concentrators ...

Part number

ARF7751BB WMBUS FULL TRX 25MW

Technical specifications

Features

- Embedded protocol: fully certified M-Bus stack completed with applicative firmware
- Embedded M-Bus modes: R1, R2 / S1, S1-m, S2 / T1, T2
- AES128 encryption
- Applicative use: meter or concentrator gateway

Performance

- Range: up to 1000m
- Conducted RF power: 14dBm (25mW)
- Sensitivity over T mode: down to -110 dBm (Data rate 100kbps)
S mode: down to -112 dBm (Data rate 32kbps)
R mode: down to -117 dBm (Data rate 4.5kbps)

Power consumption & requirements

- TX consumption: max 35mA
- RX consumption: max 22mA
- Standby consumption: < 0.6 μ A
- Sleep consumption: < 0.2 μ A
- Operating voltage: 3.3V nominal (2 to 3.6 V)

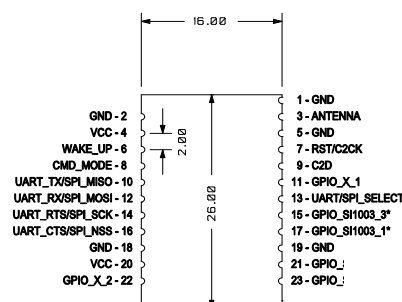
Wireless interface

- Available analog interfaces: ADC - Comparators
- Available digital interfaces: UART - SPI
- UART TTL ports: TXD - RXD - CTS - RTS
- Programmable frequency: 868 to 870MHz / Europe
- Channelization: 10 mode R, 1 mode S, 1 mode T

General information

- Operating temperature: -40°C / +85°C
- Size: 26 x 16 x 2 mm (4mm with shielding)
- Standards: can be qualified in compliance with RTTE European Directive EN 300-220, EN 301-489, EN 60950, EN 13757-4:2005

Pin configuration & Dimensions



Wireless M-Bus RF Module