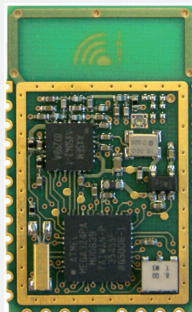


## NARROWBAND RADIO MODULE FOR THE 868 MHz FREQUENCY BAND

# → iM860A



radio module iM860A



### OVERVIEW

The iM860A is a compact, low power, bidirectional radio module for the 868 MHz frequency band. It includes a high-sensitive narrowband transceiver, a microcontroller and a PCB antenna. With its high link budget (~128 dB), long range narrowband applications are feasible. The module is solderable like a SMD component and minimizes the need for an expensive and time-consuming RF development. To find out its capabilities a Starter Kit with sample applications is available. A bootloading functionality is included which allows a software update with no effort.

### FEATURES:

- Narrowband radio module for 868 MHz
- Output power up to +10 dBm
- Forward Error Correction (FEC)
- RF data rate from 1 kbps to 14.4 kbps
- 2-wire interface (TWI), compatible to Philips I<sup>2</sup>C protocol
- Master/Slave SPI interface
- UART interface
- Sample applications available
- Bootloading functionality for firmware update
- Solderable like a SMD component
- Integrated antenna or 50 Ohm pad
- Digital RSSI (received signal strength indication) support to evaluate the radio link quality

### APPLICATIONS:

- Battery driven wireless sensor and actor systems
- Industrial remote control
- Telemetry systems
- Home-, Building-, Industrial Automation
- Metering systems (data logging)
- ...

The wide range of capabilities and functionalities provided by the iM860A can be tested by using our Starter Kit.

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## → Technical Data

### General

Operating voltage:	2.7 V to 3.6 V, typ. 3.0 V
Supply current:	typ. 26 mA (receive) typ. 40 mA (transmit @ 10 dBm) typ. 3 mA ( $\mu$ C active @ 8 MHz, transceiver off) typ. 1 $\mu$ A (power down)
Dimension (LxWxH):	approx. 20x32.5x5 mm
Operating temperature:	-15°C to +50°C

### Radio

Frequency range:	863 MHz to 870 MHz
Channel spacing:	min. 25 kHz
Data rate:	1 kbps to 14.4 kbps
Modulation:	2-FSK
Output power:	typ. +10 dBm (50 $\Omega$ Pad)
Receiver sensitivity:	typ. -118 dBm @ PER <sup>1</sup> < 1 % & 1kbps (with FEC)
Antenna:	integrated PCB antenna or optional 50 $\Omega$ pad
Range:	> 2000 m (line of sight, external antenna)

### Interface

IO Ports:	2 general purpose IO (analog/digital) 14 digital IO 1 analog reference
UART:	up to 115.2 kBaud, typ. 38.4 kBaud
SPI:	Master or slave mode
TWI:	2-wire Serial Interface ( Philips I <sup>2</sup> C compatible)

### Certifications

Pre-qualified to ETSI EN 300 220  
Lead-free and RoHs compliant

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