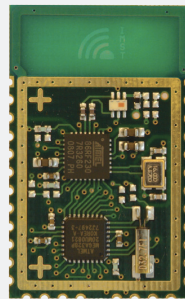


LONG RANGE RADIO MODULE FOR THE 2.4 GHz ISM BAND

→ WiMOD - iM240A



radio module iM240A



OVERVIEW

The iM240A – member of the WiMOD family – is a compact, long range radio module for the 2.4 GHz ISM band. The module includes a high-sensitive IEEE 802.15.4 compliant transceiver, a microcontroller and a PCB antenna. It is solderable like a SMD component and minimizes the need for an expensive and time-consuming RF development. To find out it's capabilities a demo board and sample applications are available. For a firmware update a bootloading functionality exists.

FEATURES:

- Compact radio module for 2.4 GHz
- Huge link budget (104 dB) @ 250 kbps
- Output power up to 3 dBm
- Compliant to IEEE 802.15.4
- RF data rate up to 250 kbps
- RSSI¹ to evaluate the radio link quality
- 2-wire interface (TWI), compatible to Philips I²C protocol
- UART interface
- Sample applications available
- Bootloading functionality for firmware update
- Solderable like a SMD component
- Integrated antenna or 50 Ohm pad

APPLICATIONS:

- Wireless networks
- Metering systems
- Home-, Building-, Industrial Automation
- Remote control
- Wireless sensors
- Telemetry
- ...

The wide range of capabilities and functionalities provided by the iM240A can be tested by using our WiMOD Starter Kit.

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→ Technical Data

General

Operating voltage:	2 V to 3.6 V, typ. 3.0 V
Supply current:	typ. 20 mA (receive) typ. 22 mA (transmit @ 0 dBm) typ. 4 mA (μ C active, transceiver off) typ. 1 μ A (power down)
Dimension (LxWxH):	approx. 20x32.5x5 mm
Operating temperature:	-20°C to +70°C

Radio

Frequency range:	2400 MHz to 2480 MHz
Operating channels:	16
Data rate:	250 kbps
Modulation:	DSSS with O-QPSK
Output power:	typ. +3 dBm (50 Ω pad)
Receiver sensitivity:	typ. -101 dBm @ PER ¹ < 1%
Antenna:	integrated PCB antenna or optional 50 Ω pad
Range (line of sight):	up to 700 m

Interface

IO Ports:	6 general purpose IO (analog/digital/I ² C) 3 digital IO 2 analog input, 1 analog reference
UART:	typ. 38.4 kBaud
TWI:	2-wire Serial Interface (Philips I ² C compatible)
HF:	CSMA-CA, IEEE 802.15.4

Certifications

Pre-qualified to ETSI EN 300 328
Lead-free and RoHS compliant

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¹ PER = Packet error rate, 20 bytes packet length