

Compact Low-Cost Radio Module

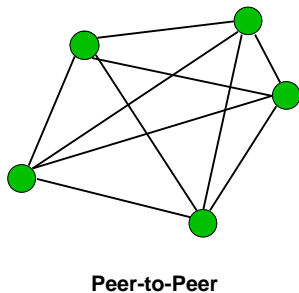
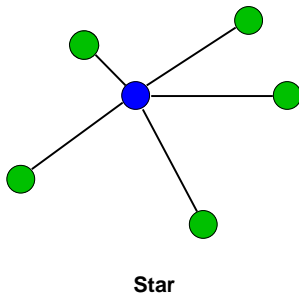
169 MHz Band

Key Features

- Low-cost OEM radio module for the 169 MHz SRD band
- Compact dimensions: 17 x 27 x 4 mm
- Supports low-power applications
- Integrated AMBER RF stack with extensive functions
- Flexible addressing with up to 255 nodes in 255 networks
- Complies with requirements of R&TTE Directive 1999/5/EC
- Tape & Reel packaging for automatic component placement
- Up to 3000 m range (line of sight)



Network Topologies



Description

The AMB3626 is a compact and low-cost radio data transmission module for wireless half-duplex communication. The integrated microprocessor controls data communication, handling packet and checksum generation, addressing, monitoring of channel access and re-transmission of lost packets. The host system does not have to perform any radio-specific tasks.

The module can be configured in many ways and supports data transfer with fast channel and address switching. An opportunity to assess the quality of the radio link is also provided by using the measured field strength (RSSI value).

A USB stick version is available to easily connect the AMB3626 to a PC system.

The AMB3626 is designed as a SMT device and is suitable for automatic component assembly. It can also be delivered in tape and reel packaging.

Interfaces

The AMB3626 is connected to a host system via the UART interface with bit rates of up to 115.2 kBaud. Other pins are used for data flow control and to switch between operating modes.

An SPI interface can be implemented upon request (separate firmware).

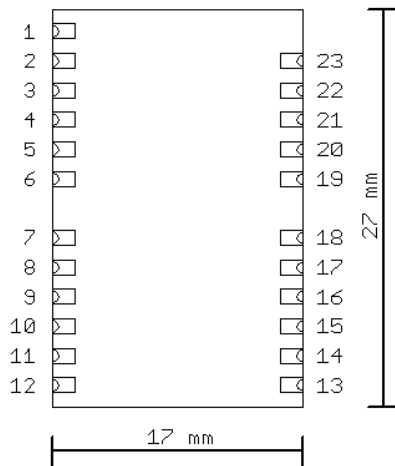
Using appropriate firmware, the module is also suitable for autonomously recording digital or analogue signals.

Range of Application

Data acquisition, monitoring, and sensor networks.

Its compact dimensions and low power consumption also makes the radio module ideal for battery-powered applications.

Dimensions



Pin Assignment

| No. | Pad Name | I/O | Description |
|---------------------|----------------|-----|------------------------------|
| 1 | ANTENNA | - | Antenna connection |
| 2,23 | GND | - | Ground |
| 3 | VCC | - | Positive supply voltage |
| 4 | UTXD | O | UART transmit |
| 5 | URXD | I | UART receive |
| 6 | /RTS | O | Flow control |
| 7 | /CTS | I | Flow control |
| 8 | /DATA_INDICATE | O | Signals incoming data |
| 11 | /DATA_REQUEST | I | Triggers packet transmission |
| 13 | SLEEP | I | Selection of low-power mode |
| 14 | TRX_DISABLE | I | Selection of low-power mode |
| 15 | /CONFIG | I | Switches to command mode |
| 19 | /RESET | I | Reset |
| 20 | RX_INDICATE | O | Signals radio reception |
| 21 | TX_INDICATE | O | Signals radio transmission |
| 9,10,12,16,17,18,22 | RSVD | - | Reserved (do not connect) |

Specifications

| | | |
|---------------|-----------------------|--|
| Performance | Range* | Up to 3000 m |
| | RF data rate | Up to 25 kbps |
| | UART data rate | Up to 115.2 kbps |
| | Output power | 15 dBm (50 Ω) |
| | RF sensitivity | Down to -120 dBm (@1.2kbps, 50 Ω) |
| General | Power supply | 2.0 – 3.6 V |
| | Power consumption | - TX: typ. 59 mA - RX: typ. 28 mA - Low Power: typ. <10 μA |
| | Dimensions | 17 x 27 x 4 mm |
| | Operating temperature | -30 to +85 °C |
| | Weight | approx. 3 g |
| | Antenna | External antenna pad (50 Ω) |
| RF technology | Addressing | Up to 255 nodes on 255 networks |
| | Frequency range | 169.4 – 169.475 MHz |
| | Channel spacing | typ. 12.5 kHz |
| | Modulation | 2-(G)FSK, (G)MSK, 4-(G)FSK |
| | Supported topologies | Star, Peer-to-Peer |
| Conformity | Europe | EN 300 220, EN 301 489, EN 60950, EN 62479 |

* Range stated assumes line-of-sight. Actual range may vary depending on antenna choice, board integration and environment.

Related products

- AMB8626

Ordering information

| Item no. | Description |
|------------|-----------------------------------|
| AMB3626 | Radio Module 169 MHz |
| AMB3626-TR | Radio Module 169 MHz, Tape & Reel |



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