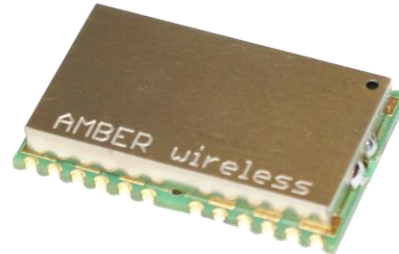# Compact Radio Module – Low Cost

434 MHz SRD/ISM Band

Key Features

- Low-cost OEM radio module for the 434 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
- Conforms with EU RED 2014/53/EU
- Available on Tape & Reel for SMD assembly
- Also available as wireless USB adapter (AMB4465)
- Pin compatible to AMB8426 (868 MHz)

Network Topologies

Star
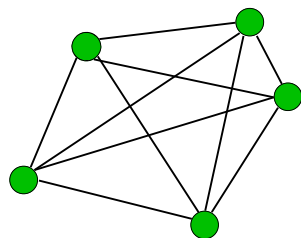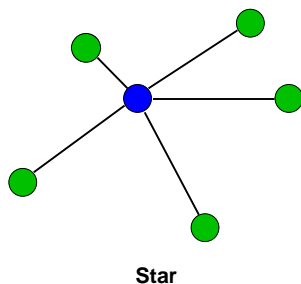
Description

The AMB4426 is a compact and low-cost radio data transmission module for wireless half-duplex communication. The integrated microprocessor controls data communication, and handles 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. The possibility to assess the quality of the radio link is also provided by using the measured field strength (RSSI value).

The AMB4426 is a surface mount device and with its edge-tinned pads it is suitable both for automatic as well as for manual mounting. It is available on Tape & Real.

Interfaces

The AMB4426 is connected to a host system via the UART interface with bit rates 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 analog signals.

Range of Application

Data collection, monitoring, remote control and sensor networks.

Its compact dimensions and low power consumption make the radio module ideal for battery-powered devices.

Peer-to-Peer

Dimensions
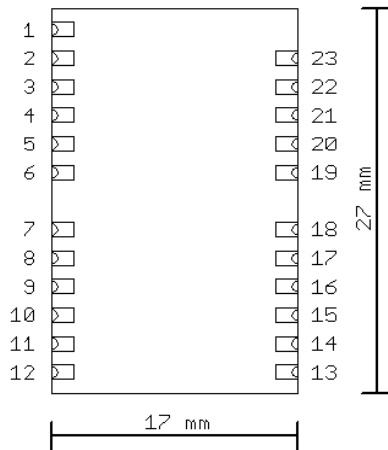
Pin-Assignment

Nr.	Pad Name	I/O	Funktion
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

TA = 25°C, VCC = 3.3 V if nothing else stated

Performance	Range*	Up to 1000 m
	RF data rate	Up to 100 kbps
	UART data rate	Up to 115,2 kBaud
	Output power	Up to 10 dBm (50 Ω)
	RF sensitivity	Down to -107 dBm (@ 1.2 kbps, 50 Ω)
General	Power supply	2.2 – 3.6 V
	Power consumption	TX: typ. 34 mA RX: typ. 24 mA Low Power: typ. 3 µA
	Dimensions	17 x 27 x 4 mm
	Operating temperature	-30 bis +85 °C
	Weight	Approx. 3 g
	Antenna	External antenna port (50 Ω)
RF technology	Adressing	Up to 255 nodes on 255 networks
	Frequency range	433.75 – 434.75 MHz
	Channel spacing	50 kHz
	Modulation	2-(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 settings, antenna choice, board integration and environment.

Related Products

- **AMB8426**

Ordering information

Item no.	Description
AMB4426	Radio Module 434 MHz
AMB4426-TR	Radio Module 434 MHz, Tape & Reel

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