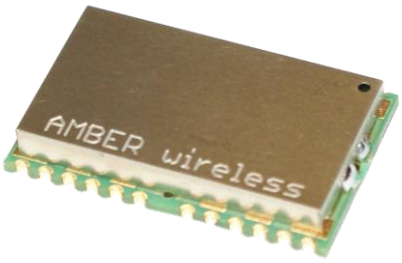
Compact Radio Module – High Performance

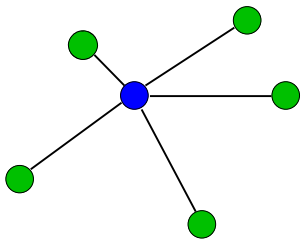
868 MHz SRD Band

Key Features

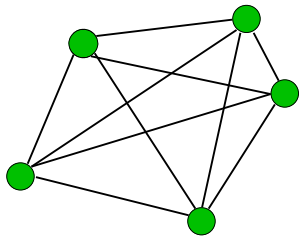
- Low-cost OEM radio module for the 868 MHz SRD band
- Compact dimensions: 17 x 27 x 4 mm
- Supports low-power applications and WOR (wake-on radio)
- Integrated AMBER RF stack with extensive functions
- Flexible addressing with up to 255 nodes in 255 networks
- Conforms with EU R&TTE 1999/5/EC directive
- Available on Tape & Reel for SMT assembly
- Also available as wireless USB adapter (AMB8665)
- Compatible to AMB8426, enhanced radio chipset radio and microprocessor[1]



Network Topologies



Star



Peer-to-Peer

Description

The AMB8626 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).

The graphical user interface of the freely available Windows application “AMBER-ACC” makes it easy to set operating parameters. A USB stick version is available to easily connect the AMB8626 to a PC system.

The AMB8426 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 AMB8626 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 is optionally available (separate firmware).

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

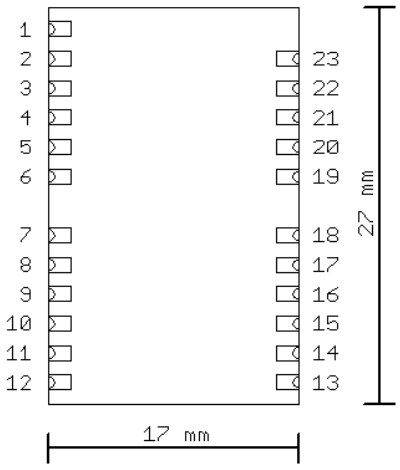
Range of Application

Data collection, monitoring, remote control and sensor networks.

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

[1] Migration guide avaiable upon request

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	0	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 2000 m
	RF data rate	Up to 250 kbps (Gross)
	Interface data rate	Up to 115.2 kbps (UART)
	Output power	Up to 14 dBm (50 Ω)
	RF sensitivity	Down to -123 dBm (50 Ω)
General	Power supply	2.0 – 3.6 V
	Power consumption	- TX: typ. 53 mA - RX: typ. 30 mA - Low Power: typ. 3 µA
	Dimensions	17 x 27 x 4 mm
	Operating temperature	-30 to +85 °C
	Weight	Approx. 3 g
	Antenna	External antenna port (50 Ω)
	Microprocessor	MSP430
RF technology	Addressing	Up to 255 nodes on 255 networks
	Frequency range	865.0 – 870.0 MHz
	Channel spacing	50 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 50371

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

Related Products

- **AMB3626** Radio Module 169 MHz

Ordering information

Item no.	Description
AMB8626	Radio Module 868 MHz
AMB8626-TR	Radio Module 868 MHz, Tape & Reel

Contact

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