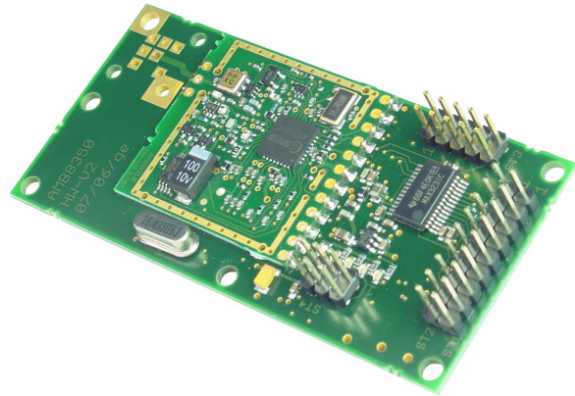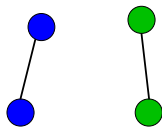**AMBER WIRELESS**

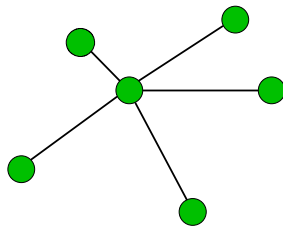# Medium-Range Data Modem
868 MHz Band

Key Features

- Multi-channel, narrowband RF data modem
- Transmit power 20 mW
- Range up to 2km (line of sight)
- RF data rates up to 57.6 kbps
- Integrated microcontroller (300 byte data buffer)
- Flexible software stack to suit a wide range of applications
- Complies with R&TTE directive 1999/5/EC
- Licence-free within Europe

Network Topologies

Point-to-Point

Point-to-Multipoint

Description

The AMB8350 is a powerful OEM radio data modem enabling cable-free and reliable transmission of data over medium distances. The embedded microprocessor controls the complete wireless data communication, thus handling packet and checksum formation, addressing, monitoring of channel access and resending of unacknowledged data packets. A buffer memory is provided to enable transmission and reception of data independently of the connected host controller. The radio modem can be used as a transparent cable replacement.

The AMB8350 features a command set of various transmission modes to meet the requirements of the respective application. It provides a broadcast operation mode and it enables the user to address up to 254 devices per channel.

The GUI for the freely available Windows application AMBER-ACC makes it easy to set the operating parameters. The configuration of the parameters can alternatively be realised by means of AT-commands.
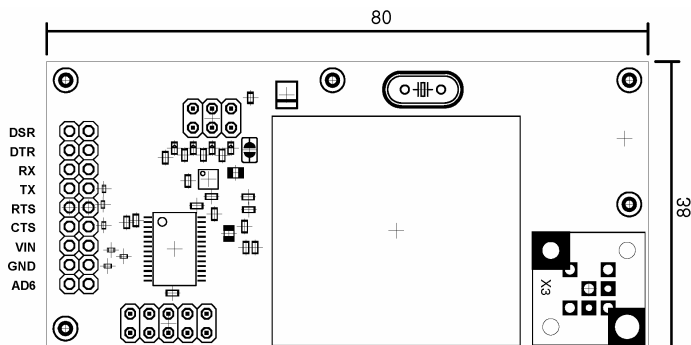
Interface

The AMB8350 is connected to a host system via RS-232 interface with data rates of up to 115.2 kbaud. Alternative host interface options: RS-485 or USB.

Scope of Application

Telemetry, wide-ranging data collection systems, monitoring, surveying, remote control and wireless sensor networks.

Dimensions

Pin Assignment Main Connector

Pin	Description
DSR	Data Set Ready
DTR	Data Terminal Ready
RX	Receive Data
TX	Transmit Data
RTS	Request to Send
CTS	Clear to Send
VIN	Positive supply voltage
GND	Negative supply voltage
AD6	Reserved

Specifications

Performance	Range*	Up to 2 km (line of sight)
	RF data rate	10 or 57.6 kbaud
	Interface data rate	Up to 115.2 kbaud (UART)
	Output power	Max. 13 dBm (@ 50 Ω, adjustable)
	RF sensitivity	-108 dBm (@ 50 Ω)
General	Power supply	4 to 10 VDC
	Current consumption	TX: 105 mA RX: 55 mA
	Dimensions	80 x 38 x 12.5 mm³
	Operating temperature	-10 to +55 ℃
	Weight	23 g (without antenna connector)
	Antenna connector	SMA or BNC possible assembly
	Status indication	4 LEDs (Power, Status, RX, TX)
	Microprocessor	ATMEL AT91SAM7Sxx
	RF transceiver	20 mW transceiver AMB8310
RF technology	Addressing	Up to 254 nodes
	Frequency range	868.059 to 869.621 MHz
	Channel spacing	39 kHz
	Number of channels	Max. 31 channels
	Modulation	2-(G)FSK
	Supported network topologies	Point-to-Point, Point-to-Multipoint

* Range stated is calculated assuming line-of-sight. Actual range will vary based upon specific board integration, antenna selection, and environment.

Related Products (868 MHz)

- **AMB8420**   Low-Cost RF Module
- **AMB8355**   Long-Range RF Data Modem
- **AMB8400**   Low-Cost RF Transceiver
- **AMB8310**   Medium-Range RF Transceiver
- **AMB8315**   Long-Range RF Transceiver

Ordering Information

Item no.	Description
AMB8350	Medium Range Data Modem 868 MHz

Contact

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