Wireless 2.4 GHz USB Stick
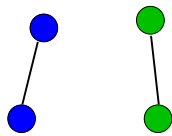
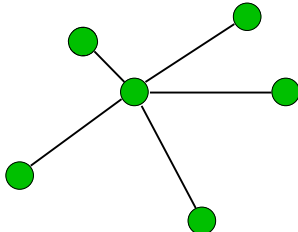for radio data applications

Key Features

- USB version of the OEM radio module AMB2520
- Range* up to 100 m / 300 m (AMB2561 / AMB2561-1)
- Communication via a virtual COM port
- Integrated software stack with comprehensive range of functions
- Flexible addressing and network topologies with up to 255 nodes in 255 networks
- Configurable data rate and transfer channel
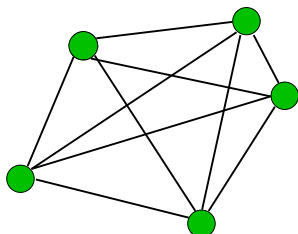- AMB2561 with integrated antenna
- AMB2561-1 with SMA connector

Network Topologies

Point-to-point

Point-to-Multipoint

Peer-to-Peer

Description

The AMB2561 is a variation of the low cost radio module AMB2520 for easy connection to a PC via the USB interface. In combination with the relevant radio technology in the end device, this solution enables quick and simple realisation of PC supported radio networks and can for example be used for data collection or control tasks.

The integrated functionality of the AMB2520 enables a wireless half-duplex transmission of data. The integrated microprocessor controls all radio communication and handles packet and checksum formation, addressing, monitoring of channel access as well as the re-transmission of unacknowledged packets.

The USB stick offers numerous configuration possibilities and data transfer with fast channel and address switching is also supported. It is also possible to assess the quality of the radio link using the measured field strength (RSSI value).

The graphical user interface of the free windows application „AMBER-ACC" allows easy configuration of the operating parameters.

The AMB2561-1, with SMA connector for the rf output in combination with a suitable antenna leads to an improved range. It is also possible to operate the USB Stick inside a shielded environment (e.g. a steel cabinet), by leading the rf to the outside via cable and mounting the antenna there.

Interfaces

The device is connected either via a virtual COM port or directly via USB using the corresponding software API. The USB controller (FTDI: FT231XQ) supports USB 2.0 (full speed). The corresponding drivers may be downloaded from the FTDI website.

The software-interface is identical to that of the AMB2520 and is described in the corresponding manual.

Scope of Application

Data collection, monitoring, remote control and sensor networks.

Specifications

Performance	Range*	up to 100 m / 300 m (AMB2561 / AMB2561-1)
	RF data rate	up to 500 kbps
Radio Technology	Addressing	up to 255 nodes in 255 networks
	Frequency range	2400 – 2483,5 MHz
	Channel spacing	500 kHz
	Modulation type	2-FSK, MSK
	Supported topologies	Point-to-Point, Point-to-Multipoint, Peer-to-Peer
Operating Range	Temperature	-40°C to 85°C

* Range stated is assuming line-of-sight. Actual range will vary based upon e.g. antenna selection, persons or objects and in particular ferrous materials in the line of transmission, other 2,4 GHz Systems or operation near the ground.

Evaluation Kit

- **AMB2520-EV**

Ordering Information

Item no.	Description
AMB2561	Wireless 2.4 GHz USB stick with integrated antenna
AMB2561-1	Wireless 2,4 GHz USB stick with SMA connector
AMB1926	2,4 GHz antenna with swivel base

AMBER wireless GmbH
Phone   +49.651.993.550
Email   info@amber-wireless.de
Internet   www.amber-wireless.de