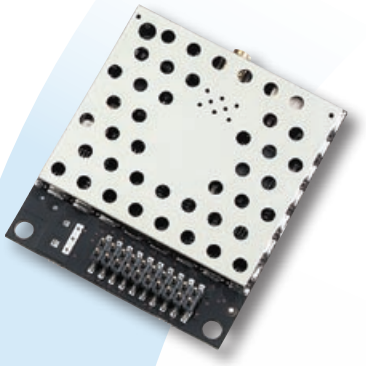
Laird TECHNOLOGIES

Innovative **Technology** for a **Connected** World

AC4486
868MHz Radio Module



THE FASTEST WAY TO WIRELESS

Compact, low-cost 868MHz radio modules can replace miles of cable in harsh industrial environments. Using field-proven technology that needs no additional ETSI (Europe) licensing, OEMs with little or no previous RF experience can easily make existing systems wireless.

AC4486s feature a number of on-the-fly control commands, providing OEMs with a very versatile interface for any application. The modules can be used as direct wire replacements, requiring no special host software for communication. All synchronization and RF system data transmission/reception is performed by the radio module.

AC4486s operate in a point-to-point or point-to-multipoint, client/server or peer-to-peer architecture. They are (socket-compatible network-wide) with 2.4GHz and 900MHz models, preserving OEMs' hardware/software investments while providing solutions that meet different market, regulatory and environmental needs.

FEATURES

- Approved for European use
- Seamless cable-to-radio module replacement
- High 868MHz data rate: 76.8 Kbps
- Small form factor: 1.65 x 1.9 inches
- Operates in –40ºC to +80ºC temperatures
- Socket-compatible with 2.4GHz models

MARKETS

- Recreation Areas
- Pool & Spa Control
- Point of Sale
- Gaming Devices
- Utilities Management

global solutions: local support™

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FLEXIBLE RF PROTOCOL

Laird Technologies' embedded transparent protocol simplifies the OEM's integration process by utilizing drop-in installation. As each radio module receives raw data, it manages its over-the-air protocol to assure successful communication. Headers, data packet length, and CRCs are not required. The RF232 supports simple cable-replacement to complex peer-to-peer configurations; and broadcast communication to all radio modules or address packets to a specific destination using unique MAC addresses embedded in each radio module.

SPECIFICATIONS

Parameter	AC4486–5
Interface	20-pin mini connector
Frequency	869.7-869.65 MHz
Modulation	FSK
Serial interface options	3V TTL
Serial interface data rate	Up to 115.2 Kbps
Output power (w/ 2dBi antenna)	5mW variable
Power consumption (transmit/receive)	40mA typical
Security	One-byte system ID
Sensitivity (w/ 2dBi antenna)	-100 dB typical @ 76.8 Kbps RF Data Rate
Voltage	3.3V nominal +/-2%, +/-30mV
Range	Up to 1000 meters line of sight
Temperature	-40° to +80°C
Humidity (non-condensing)	10% to 90%
Dimensions	1.90 x 1.65 x 0.20" (49 x 42 x 5 mm)
Weight	< 0.75 oz (< 21 g)
Antenna	External MMCX connector

ORDERING INFORMATION

AC4486 - 5M	868MHz transceiver, TTL serial RS232, 0–250mW, -40° to +80° C, MMCX antenna
AC4486 - 5M - 485	868MHz transceiver, TTL serial RS485, 0–250mW, -40° to +80° C, MMCX antenna
AC4486 - 5A	868MHz transceiver, TTL serial RS232, 0–250mW, -40° to +80° C, integral antenna
AC4486 - 5A - 485	868MHz transceiver, TTL serial RS485, 0–250mW, -40° to +80° C, integral antenna

RF PROTOCOL MODES

a) Communication
   - Unicast (one-to-one addressing)
   - Broadcast (one-to-multiple addressing)

b) Acknowledgement mode (ACK)
   - API with hardware and/or software ACK indication

INTERFACE PROTOCOL

a) On-the-fly radio module configuration:
   - Destination address
   - RF transmit power
   - Broadcast/addressed

b) 9-bit serial interface mode

c) A/D, D/A generic I/Os

d) Variable baud rate

e) RF packet size, timeout control

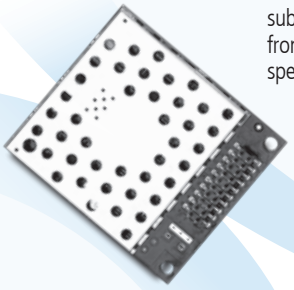
f) Onboard temperature sensor

g) Handshaking, CTS/RTS

h) In-range indicator

i) Error detection
   - Onboard CRC
   - Duplicate packet filtering

j) Data encryption standard (DES)



The details contained within the document are subject to change. Download the product specification from www.lairdtech.com/wireless for the most current specification.

LWS-SPEC-AC4486 0309