

The fastest way to wireless.

Designed to provide OEMs with license-free communications over long distances, AC4868 becomes the essential, affordable alternative to products operating in the saturated 433MHz band. The fully certified 868MHz transceiver delivers 250mW of output power, ideal for highly industrial European applications where reliable data deployment is crucial.

AC4868 supports a host of communication architectures: point-to-point, point-to-multipoint and peer-to-peer. Its dynamic serial firmware manages difficult over-the-air issues such as error detection, multipath concerns, link verification and interference. It is simply the best price/performance 868MHz available.

AC4868 modules are socket-compatible with AeroComm's 900MHz or 2.4GHz transceivers, enabling OEMs to design once and subsequently interchange radios to accommodate new markets, regulations and environments. European approval allows use of the transceiver in both mobile and fixed installations without further licensing requirements.

AC4868 Highlights

- Approved for **European use**.
- **Seamless** cable-to-transceiver replacement.
- High 868MHz data rate: **57.6 Kbps**.
- Small form factor: **1.65 x 1.9 inches**.
- Operates in **-40°C to +80°C** temperatures.
- 250mW enables up to **15-kilometer range**.

Applications



Recreation Areas

- Irrigation systems
- Golf cart tracking
- Score keeping
- Order entry
- Grounds maintenance



Pool & Spa Control

- Temperature monitoring
- Pump activation
- Illumination
- Environmental controls
- Access & activity alerts



Point of Sale

- Inventory tracking
- Order processing
- Credit/debit verification
- Merchandise vending
- Portable registers



Gaming Devices

- Lottery machines
- Portable bingo
- Bar trivia
- Casino slots
- Game kiosks



Utilities Management

- Automatic meter reading
- Load profiling, forecasting
- Data management
- Tampering alerts
- Real-time support

Specifications

PARAMETER

AC4868-250

Interface	20-pin mini connector
Frequency	869.40-869.65MHz
Modulation	SF FSK
Serial interface options	3V TTL
Serial interface data rate	Up to 57.6 Kbps
Output power (w/ 2dBi antenna)	250mW variable
Power consumption (transmit/receive)	240mA/36mA
Security	One-byte system ID
Sensitivity (w/ 2dBi antenna)	-103 dBm typical @28.8 Kbps
Voltage	Pin 10: 3.3-5.5V +/-50mV ripple Pin 11: 3.3V +/-3%, +/-100mV ripple
Range	Up to 15 kilometers line of sight
Temperature	-40° to +80°C
Humidity (non-condensing)	10% to 90%
Dimensions	1.90 x 1.65 x 0.20 inches (49 x 42 x 5 mm)
Weight	< 0.75 oz (< 21 g)
Antenna	External MMCX connector

* The 868MHz frequency band is approved in Europe as an unlicensed spectrum subject to approval by device.

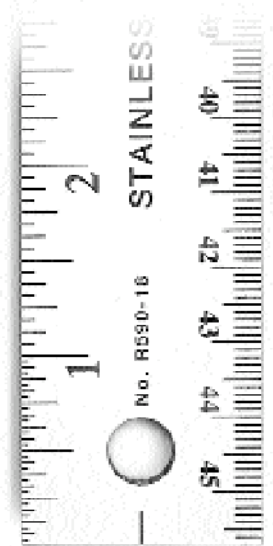
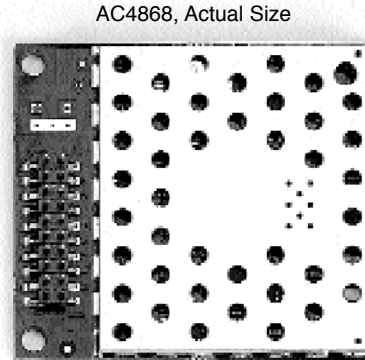
** Although AC4868 radios will not talk to AC4490 radios, socket-compatibility allows for interchanging the modules network-wide.



Flexible RF Protocol

AeroComm's embedded transparent protocol simplifies the OEM's integration process by allowing for drop-in installation. As each transceiver receives raw data, it manages over-the-air protocol to assure successful communication. Headers, data packet length, and CRCs are not needed.

RF232 supports simple cable-replacement to complex peer-to-peer configurations. Broadcast communication to all transceivers or address packets to a specific destination using unique MAC addresses embedded in each transceiver.



Protocol Features

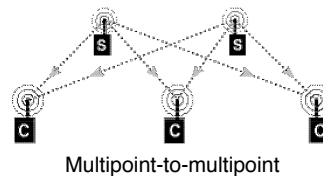
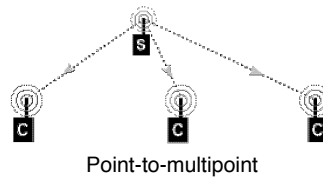
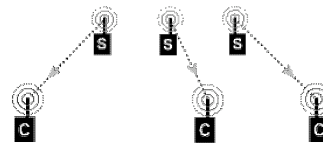
RF PROTOCOL MODES

- a) **Communication**
 - Unicast (one-to-one addressing)
 - Broadcast (one-to-many addressing)
- b) **Acknowledgement mode (ACK)**
 - API with hardware/software ACK indication

INTERFACE PROTOCOL

- a) **On-the-fly transceiver 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)**

RF Architectures



Placing Orders

Select features from the list below to identify the appropriate part number. More product lines are available for industrial & commercial applications. Contact AeroComm Sales for details: toll-free 1-800-492-2320, email sales@aerocomm.com.

PART NUMBERS

AC4868-250M

868MHz transceiver, TTL serial RS232, 0-250mW, -40° to +80° C, MMCX antenna

AC4868-250M-485

868MHz transceiver, TTL serial RS485, 0-250mW, -40° to +80° C, integral antenna