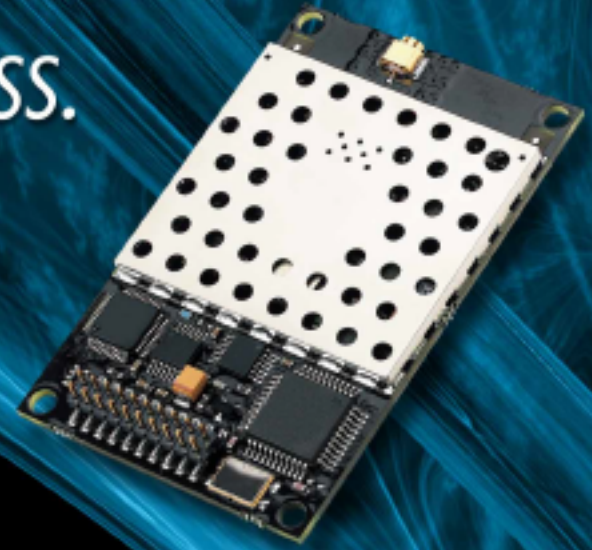


The fastest way to wireless.

AC4424 is a 2.4GHz FHSS digital transceiver that represents a breakthrough in industrial RF communication. Comprised of a complete, agency-certified radio and sophisticated RF232[®] protocol, AC4424 simplifies the OEM's design effort and assures successful field operation.

RF232 makes AC4424 a drop-in module for seamless integration, easy operation and fast time-to-market. As each transceiver receives raw data, it manages protocol over-the-air to assure successful transmissions. Headers, data packet length and CRCs are not needed. The process is transparent to the OEM.

AC4424 modules are socket-compatible with AeroComm's 900MHz AC4490 transceivers, enabling OEMs to design once and subsequently interchange radios to accommodate new markets, regulations and environments.* Developer tools and support back every transceiver line. Let AeroComm help you find the best fit for your application.



AC4424 Highlights

- FCC, IC and ETSI/CE certified.
- **Flexible protocol** allows various configurations.
- **Small form factor: 2.65 x 1.65 inches.**
- Operates in **-40°C to +80°C** temperatures.
- **Low-power sleep mode** with continuous sync.

Applications



Industrial Control

- Lighting
- HVAC
- Sensor monitoring
- Automation
- Data loggers



Fleet Telemetry

- Vehicle tracking
- Cargo data
- Weigh scales
- Maintenance logs
- Mapping



Automotive

- Wheel alignment
- Handheld diagnostics
- Onboard diagnostics
- Engine analyzers
- Vibration



Field Surveillance

- SCADA
- Oil & gas
- Water & wastewater
- Tank monitoring
- Security



Home Automation

- Pool & spa control
- Lighting & atmosphere
- Security systems
- Audio & video

Specifications

PARAMETER	AC4424-10	AC4424-100	AC4424-200
Interface	20-pin mini connector	20-pin mini connector	20-pin mini connector
Frequency	2.402 - 2.478 GHz	2.402 - 2.478 GHz	2.402 - 2.478 GHz
Modulation	FHSS FSK	FHSS FSK	FHSS FSK
Serial interface options	3V or 5V TTL	3V or 5V TTL	3V or 5V TTL
Serial interface data rate	Up to 192 Kbps	Up to 192 Kbps	Up to 192 Kbps
Output power	10mW	100mW	200mW
Power consumption**	115/85 mA	160/85 mA	235/85 mA
Channels	88 channels U.S./Canada; 40 channels Europe	88 channels U.S./Canada; 40 channels Europe	88 channels U.S./Canada; 40 channels Europe
Security	One-byte system ID	One-byte system ID	One-byte system ID
Voltage	5 V nominal +/- 2% +/- 50 mV ripple	5 V nominal +/- 2% +/- 50 mV ripple	5 V nominal +/- 2% +/- 50 mV ripple
Sensitivity	-90 dB @ full RF data rate	-90 dB @ full RF data rate	-90 dB @ full RF data rate
Range	Up to 0.5 mile (1 km)	Up to 1 mile (2 km)	Up to 2 miles (3 km)
Temperature	-40° to +80°C	-40° to +80°C	-40° to +80°C
Humidity (non-condensing)	10% to 90%	10% to 90%	10% to 90%
Dimensions	1.65 x 2.65 x 0.20 inches (6.7 x 4.2 x 0.5 cm)	1.90 x 2.65 x 0.20 inches (6.7 x 4.2 x 0.5 cm)	1.90 x 2.65 x 0.20 inches (6.7 x 4.2 x 0.5 cm)
Weight	< 0.7 oz (< 20 g)	< 0.7 oz (< 20 g)	< 0.7 oz (< 20 g)
Antenna	MMCX receptacle or Integral	MMCX receptacle	MMCX receptacle

* Although AC4424s will not talk to AC4490s, socket-compatibility allows for seamlessly interchanging the modules network-wide.

** Power consumption assumes 50% transmitter-on time.

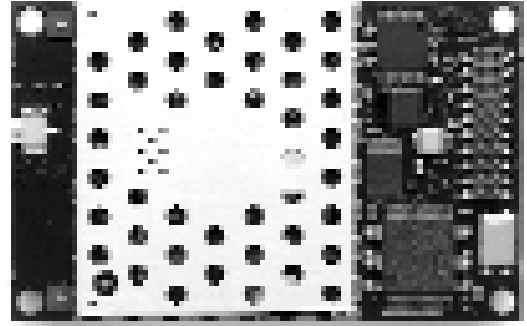


Flexible RF Protocol

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.

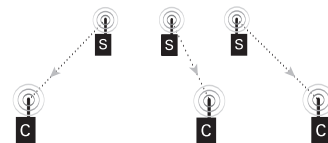
AC4424, Actual Size



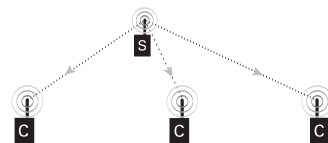
Protocol Features

- **Communication**
 - Unicast (one-to-one addressing)
 - Broadcast (one-to-many addressing)
- **Transceiver configuration**
 - Destination address
 - Co-located servers
 - RF Channel
 - Broadcast/addressed
- **Variable baud rate**
- **RF packet size, timeout control**
- **Handshaking**
 - CTS/RTS
- **In-range indicator**
- **Auto-channel**
- **Error detection**
 - Onboard CRC
 - Duplicate packet filtering
- **Random back-off**

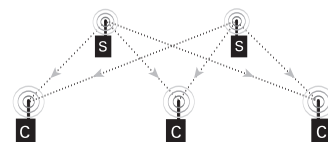
RF Architectures



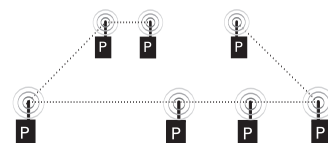
Point-to-point



Point-to-multipoint



Multipoint-to-multipoint



Peer-to-peer

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

AC4424-200

2.4GHz 200mW transceiver, 5V, TTL serial, -40° to +80° C, MMCX antenna

AC4424-200A

2.4GHz 200mW transceiver, 5V, TTL serial, -40° to +80° C, integral antenna

AC4424-100

2.4GHz 100mW transceiver, 5V, TTL serial, -40° to +80° C, MMCX antenna

AC4424-100A

2.4GHz 100mW transceiver, 5V, TTL serial, -40° to +80° C, integral antenna

AC4424-10

2.4GHz 10mW transceiver, 5V, TTL serial, -40° to +80° C, MMCX antenna

AC4424-10A

2.4GHz 10mW transceiver, 5V, TTL serial, -40° to +80° C, integral antenna