



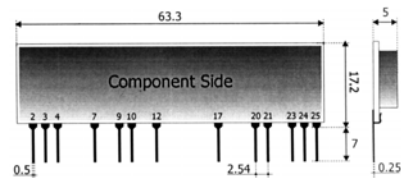
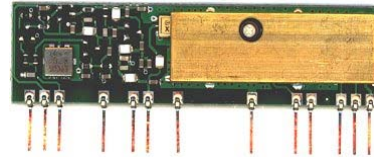
ATXR-434-ULC Ultra Low Current SAW Transceiver

The ATX-434-ULC low current AM digital data transceiver module features an ultra low current receiver section. Drawing a mere 70 μ A makes this module ideal for portable battery powered applications.

High selectivity and high insensitivity to electromagnetic fields is achieved by the SAW front end filter and EMI-RFI shielding can.

With its low receiver current consumption, the receiver can remain powered therefore eliminating power-up delay time.

The transmit section is SAW stabilized offering excellent stability. With the OOK modulation, the transmitter will draw current only when the data present at its data input, is at a high level.



Features

- Ultra Low Current 70 μ A receiver
- Ideally suited to portable applications
- Simple to integrate
- High stability, Low EMI-RFI
- Up to 250ft range
- Low cost
- Wide operating temperature range

Pin	Designation
2, 7, 12, 17, 21	Ground
3	+V TX
4	TX Data In
9	RF Ground
10	Antenna
20, 25	+V RX
23	Test Point
24	RX Data Out

Typical Applications

- sensor reporting
- data acquisition
- half duplex data communications
- security systems
- EPOS
- bi-directional remote control
- RFID

Order Code

■ ATXR-434-ULC

Parameter	Minimum	Typical	Maximum
Supply Voltage		3Vdc	
Supply Current-TX	15mA		17mA
Supply Current-RX	70 μ A		90 μ A
Operating Frequency		433.92MHz	
RF Sensitivity		-92dBm	
LF Bandwidth		2.5KHz	
TX Output Power		10dBm \pm 2dBm	
Antenna Impedance		50 Ω	
Power ON Time		1s	
TX-RX Switch Time		500ms	
Operating Temperature Range	-20 $^{\circ}$ C		+80 $^{\circ}$ C

Pin Descriptions

Ground: (2,7,9,12,17,21)

GND connections which are internally connected to a single ground plane.

+V Tx: (3)

Positive supply 3V \pm 5% line for the transmitter section. Decouple this pin to ground via a 0.1uF capacitor.

Tx Data In: (4)

Transceiver digital input. Accepts serial data (0 to V_{supply}) with a 10K Ω load impedance.

Antenna: (10)

50 Ω impedance antenna connection. A simple 1/4 wave (16.5cm) wire (22guage solid core) antenna may be connected close to the antenna pin 10. The antenna body should be kept as straight as possible and have as much free space around it as possible. The antenna should be kept well clear of other electronic components and circuits.

For applications requiring antenna connection a distance away, a 50 Ω transmission line such as RG179U cable is required. The shield of the cable is connected to ground and the inner core to pin 10.

ABACOM Technologies, Inc. offer a selection of suitable manufactured antenna with SMA, BNC or bulkhead connectors.

+V Rx: (20, 25)

Positive supply 3V \pm 5% line for the receiver section. Decouple these pins to ground via a 0.1uF capacitor.

Test Point: (23)

This is the analog output of the demodulated received signal before it is digitized. By connecting an external resistor to this pin and ground it is possible to adjust the squelch level of the digital output. With no resistor connected, the receiver will be set to maximum sensitivity and will therefore produce digital white noise on the data output pin in the absence of a received transmission. Some applications require this noise to be eliminated which can be done either in software in microcontroller based interfaces or it may be eliminated by the addition of a squelching resistor. The addition of a 10M Ω will cause a -1 dB sensitivity loss. A 5.6M Ω resistor will cause a -3 dB loss in sensitivity.

Rx Data Output: (24)

Transceiver digital output applied to loads of over 10K Ω .

Compliance

The ATXR-433-ULC transceiver is CE certified and in particular, complies with EN300 220-3 for class 2 and EN 300 683 for class 1.

Disclaimer:

Technical specifications are subject to change without notice. Whilst every effort has been made to ensure the accuracy of the information contained in this document, ABACOM Technologies Inc. does not assume responsibility for any errors or omissions that may exist. ABACOM Technologies Inc. does not assume responsibility for any damage caused through use or misuse of their products and the onus lies entirely with the end user in determining the suitability of and use of the product for any particular application. ABACOM Technologies Inc. products are not recommended for applications where human life may be at risk.