

AMS002R Datasheet

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DiGi Electronics Part Number	AMS002R-DG
Manufacturer	Silicon Labs
Manufacturer Product Number	AMS002R
Description	RF TXRX MODULE BT TRACE ANT SMD
Detailed Description	Bluetooth Bluetooth v4.1 Transceiver Module 2.4GHz Integrated, Trace Surface Mount

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Purchase and inquiry

Manufacturer Product Number:

AMS002R

Series:

-

DiGi-Electronics Programmable:

Not Verified

Protocol:

Bluetooth v4.1

Frequency:

2.4GHz

Power - Output:

4dBm

Serial Interfaces:

I2C, SPI, USART

Utilized IC / Part:

-

Voltage - Supply:

1.8V ~ 3.6V

Current - Transmitting:

22mA

Operating Temperature:

-30°C ~ 85°C

Manufacturer:

Silicon Labs

Product Status:

Discontinued at Digi-Key

RF Family/Standard:

Bluetooth

Modulation:

DSSS, GFSK

Data Rate:

1Mbps

Sensitivity:

-94dBm

Antenna Type:

Integrated, Trace

Memory Size:

8MB Flash

Current - Receiving:

26.6mA

Mounting Type:

Surface Mount

Package / Case:

27-SMD Module

Environmental & Export classification

Moisture Sensitivity Level (MSL):

3 (168 Hours)

HTSUS:

8517.62.0090

ECCN:

3A991A2



17.6 x 11.4 mm

FEATURES

- Bluetooth Low Energy (Bluetooth SMART) modules fully certified for Bluetooth 4.1 with on-board support for profiles including Battery Status, Blood pressure monitor, Proximity, Thermometer, Glucose and many more.
- Small size enables integration into most sensor products and applications
- ARM® Cortex™ M3-based microprocessor core
- Programmable RF transmit power control and on-board PCB-style antenna
- Powered directly from a battery or mains supply
- Secure Over-the-Air (OTA) software update using industry-standard AES-128 security
- Easily integrated into existing or new products using TruConnect, ACKme's configurable Bluetooth Low Energy application (pre-installed on every module)
- Custom application development on the module with the Broadcom WICED® Smart Software Development Kit

APPLICATIONS

- Wireless serial cable replacement
- Health & Fitness equipment including heart rate monitors, blood pressure, thermometers, pedometers, weight scales
- Retail advertising and beaconing, proximity detection, point-of-sale
- Control, automation, security and monitoring of environmental data
- Consumer : Toys, robots, remote controls

AMS001/AMS002 'Bobcat' Bluetooth Low-Energy: The 'Smart' Solution

Add ultra-low power wireless connectivity to your application in a heartbeat

GET TO MARKET, FAST!

The 'Bobcat' family of Bluetooth SMART modules from ACKme Networks vastly reduces development effort and fast-tracks your latest wireless product to market.

HIGHLIGHTS

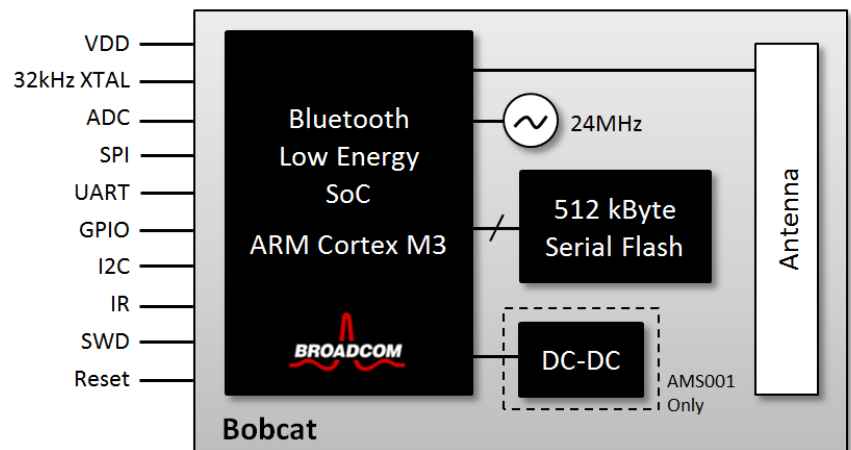
The AMS001/AMS002 'Bobcat' family of modules are fully certified small form factor, ultra-low power and low-cost Bluetooth Low Energy (Bluetooth SMART) modules perfectly suited to battery and powered operation for medium to high-volume applications. Both modules have identical specifications, with the AMS001 offering ultra-low power, and the AMS002 offering the lowest cost.

All modules provides an integrated Bluetooth Low Energy stack, support over the air (OTA) upgrade in conjunction with the integrated serial Flash, and include an on-board PCB-style antenna all in a physical footprint of just 17.6 x 11.4 x 2.4 mm.

ACKme TruConnect firmware is pre-installed and licensed to run on all Bobcat modules. TruConnect is an easy-to-use application enabling module control and configuration via a UART-serial interface. TruConnect virtually eliminates difficult and time-consuming software development effort and vastly reduces product development cycles.

For customers that prefer to write a custom application replacing TruConnect, ACKme provides support for on-module development using the WICED Smart Software Development Kit from Broadcom®.

SYSTEM ARCHITECTURE



AMS001/AMS002 SPECIFICATIONS

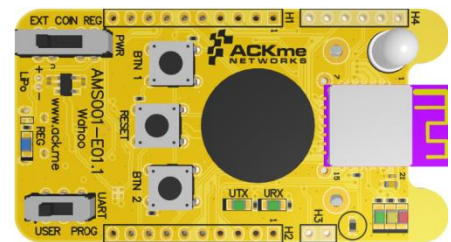
Wireless Standard	Bluetooth version 4.1				
Frequency Band	2400 – 2500 MHz				
Bluetooth Smart Use Cases	Wireless cable replacement, Battery status, Blood pressure monitor, Proximity, Thermometer, Glucose meter, plus many more				
Communications Interfaces	UART, SPI, I2C, SWD				
Peripherals	GPIO, ADC, PWM				
Data Throughput	270 kbit/s over-the air; 85 kbit/s wireless UART				
Microprocessor & Memory	ARM Cortex-M3 with 60kB RAM (when used with the WICED Smart SDK)				
Max. RF Transmit Power	+4 dBm (max)				
Receive Sensitivity	-94 dBm				
Communications Range	>50m (150ft) line of sight				
Antenna	Integrated PCB-style				
Power Consumption @ 3.0V, 25°C	Deep Sleep : 0.65 µA				
	Sleep : 12 µA				
		Active Rx (mA)	Active Tx (mA)	Lowest Power	Lowest Cost
	AMS001	12.8	10.8	✓	
	AMS002	26.6	22.0		✓
Supply Voltage	1.8V – 3.6V				
Operating Temperature	-30°C to +85°C				
Size	17.6 x 11.4 x 2.4 mm (0.70 x 0.45 x 0.10 inches)				
Certifications	FCC, CE, IC				
Software	ACKme TruConnect serial Bluetooth Application is pre-installed on all modules				

EVALUATION BOARDS

Evaluating the Bobcat family of modules using ACKme's TruConnect serial Bluetooth software is easy. Simply plug the board into a PC using a standard USB cable, open a terminal and start typing!

The evaluation board includes:

- USB-serial interface for simplified UART communications
- Four different power supply options including 3V lithium coin cell, Li-Po battery (with integrated charging circuit), external 3.3V and USB
- Peripheral interface including two buttons, five LEDs for I/O control and status indication, speaker for audio output and a thermistor for temperature measurement
- Expansion headers to break out every pin on the module
- Reset button
- Works with yACKme iOS App



Wahoo Evaluation Board



➔ Contact us at <http://ack.me/contact>
or +1 (408) 402 5708

Or for more information, visit us online at
<http://ack.me>

AMS001 (Bobcat LP)

AMS001 Ultra-low power surface mount module

AMS002 (Bobcat LC)

AMS002 Low power, lowest cost surface mount module

AMS001-E01 (Wahoo)

AMS001 Surface-mounted on Wahoo Evaluation Board



ABOUT ACKme NETWORKS, INC.

ACKme Networks offers a range of industry leading cloud-connected wireless communication modules including Wi-Fi, Bluetooth, Bluetooth Low Energy and GPRS cellular. ACKme is headquartered in Silicon Valley, USA with a design centre in Sydney, Australia and a range of international distributors.

OUR CERTIFICATE

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