AMW006 'Numbat'

Cloud-Connected Wi-Fi Module

Connecting your device to the cloud just got a whole lot easier

20.3 x 15.2 mm

LOW POWER CONNECTIVITY TO THE CLOUD

Using a Wi-Fi module to connect your device to the internet only solves half the problem. ACKme Wi-Fi modules bridge the gap by providing ultra-low power cloud connectivity coupled with an easy-to-use serial communication command set.
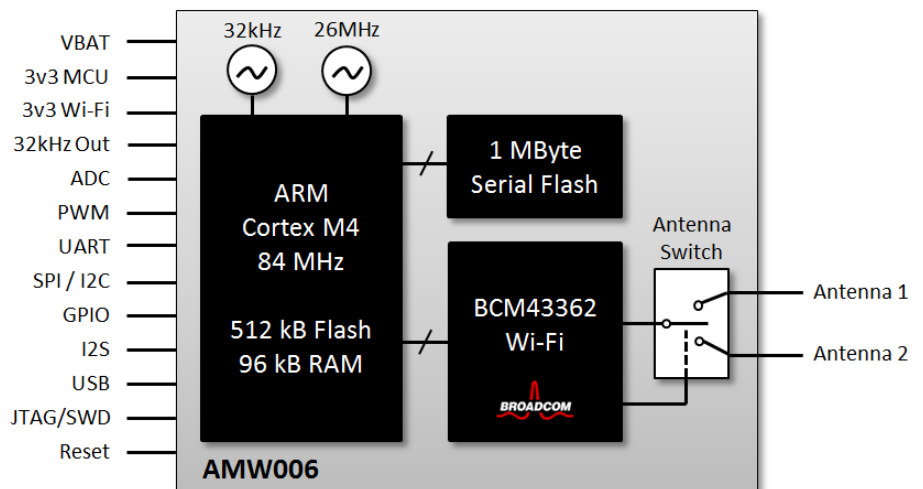
HIGHLIGHTS

The AMW006 'Numbat' module is a fully certified small form factor, ultra-low power WICED-based Wi-Fi networking module perfectly suited to deeply embedded applications for medium to high volumes.

The module runs an embedded TCP/IP networking stack with SSL/TLS/HTTPS security and includes 1MB serial internal flash memory, real time clock and selectable antenna diversity all in a physical footprint of just 20.3mm x 15.2 x 2.9mm or (0.8" x 0.6" x 0.11").

ACKme WiConnect firmware is pre-installed on all AMW006 modules. WiConnect is an intuitive and reliable serial Wi-Fi networking application that includes API extensions for cloud connectivity powered by Sensors.com.

FEATURES

- Standalone WICED Wi-Fi Networking module including apps processor
- Multiple serial interfaces: UART, SPI, I2C
- Sensors.com cloud API for remote device monitoring and control
- Ultra-low power mode for battery operation
- On-board TCP/IP stack includes SSL/TLS/HTTPS security
- Secure over-the-air (OTA) upgrade
- Various Wi-Fi provisioning options including WPS and softAP/webserver

APPLICATIONS

- Environmental & energy monitoring
- Wireless Sensing, remote data logging
- HVAC, power, light & thermostat control
- Appliance control
- Security cameras
- Door/window monitoring
- Entry control and monitoring
- Fitness equipment
- Home health monitoring
- Medical devices
- Audio
- Toys & robots
- And more...

AMW006 SYSTEM ARCHITECTURE

AMW006 SPECIFICATIONS
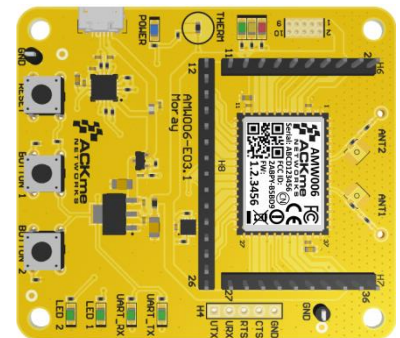
Networking Standards	802.11b/g/n
Frequency Band	2.4GHz – Channels 1-14
Wi-Fi Security	Open, WEP, WPA, WPA2
Network Protocols	UDP, TCP, ARP, ICMP, DNS, SNTP, HTTP, DHCP, SMTP, Sensors.com
Network Security	SSL3.0/TLS1.2, HTTPS, Secure OTA Upgrade
Communications Interfaces	UART, SPI, I2C, USB, JTAG
Data Throughput	>10Mbit/s SPI, 4Mbit/s UART
Microprocessor & Memory	ARM CM4 @ 84MHz incl. 512kB flash and 96kB RAM, on-board 8Mbit (1MByte) SPI-serial flash
Peripherals	GPIO, ADC, PWM, I2S
Real Time Clock	Time-of-day, low power alarms/wakeup
Max. RF Transmit Power	+19dBm (11b), +16dBm (11g), +14dBm (11n)
Min. Receive Sensitivity	-94dBm (11b/g), -86dBm (11n)
Communications Range	>1000ft (330m) line of sight (using recommended antenna)
Antenna	Antenna diversity using external antenna
Power Consumption @ 25°C	Standby: 2.8µA (incl. 32kHz RTC) Sleep: 10µA Wi-Fi Powersave: 0.77mA (DTIM=3) Active Receive: 5.7mA (1Mbit/s UDP) Active Transmit: 11.4mA (1Mbit/s UDP)
Supply Voltage	+3.3V ±10%
Operating Temperature	-30°C to +85°C
Size	22.9mm x 20.3mm x 2.7mm (0.8" x 0.6" x 0.11")
Certifications	FCC, CE, IC
Software	ACKme WiConnect serial Wi-Fi Application is pre-installed on all modules

AMW006 EVALUATION BOARD

Evaluating the AMW006 module using ACKme's WiConnect serial Wi-Fi 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 & power
- Peripheral interface including two buttons, five LEDs for I/O control and status indication, and a thermistor for temperature measurement
- Expansion headers to break out every pin on the module
- Reset button

Contact us: http://ack.me/contact
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Or for more information, visit us online at http://ack.me

AMW006 (Numbat)	AMW006 surface mount module
AMW006-A01 (Hopper)	AMW006 with pluggable module adapter (2mm pin pitch)
AMW006-E03 (Moray)	AMW006 surface-mounted on WiConnect Evaluation Board
AMW006-E02 (Marlin+Hopper)	AMW006 pluggable module adapter with WiConnect Eval Board
AMW006-E01 (Seabass)	AMW006 surface-mounted on WICED SDK 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.