ZENTRI

AMW007 'Spectre'
Low Cost Wi-Fi Module

11 x 12 mm

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

CONNECTIVITY TO THE CLOUD

Using a Wi-Fi module to connect your device to the internet only solves half the problem. Zentri Wi-Fi modules bridge the gap by providing ultra-low power cloud connectivity coupled with the ZentriOS easy-to-use command API available via serial, HTTP REST, websockets or remote terminal.
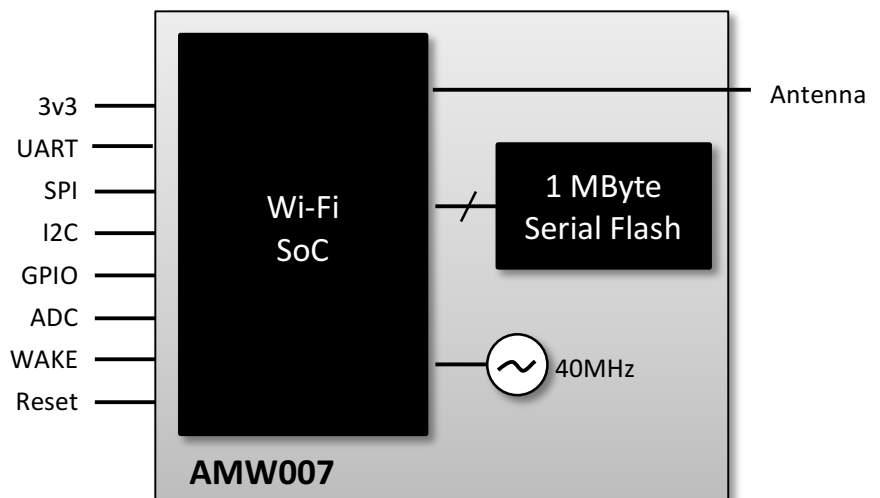
HIGHLIGHTS

The AMW007 'Spectre' module is a fully certified small form factor, low cost Wi-Fi module perfectly suited to ultra-low power deeply embedded applications for medium to high volumes.

The module runs an embedded TCP/IP networking stack that includes SSL/TLS security. It also includes 1MB serial internal flash memory in a physical footprint of just 11mm x 12mm x 1.8mm or (0.43" x 0.47" x 0.08").

The fully certified module comes pre-installed with ZentriOS. ZentriOS includes API extensions for connectivity to the cloud enabling remote device management and data exchange with various cloud services.

FEATURES

- Standalone, programmable Wi-Fi Networking module
- Multiple serial interfaces: UART, SPI, I2C
- On-board TCP/IP stack includes SSL/TLS security
- Ultra-low power mode for battery operation
- Secure over-the-air (OTA) updates using Zentri Device Management Service (DMS)
- 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 many more...

AMW007 SYSTEM ARCHITECTURE

3v3
UART
SPI
I2C
GPIO
ADC
WAKE
Reset

Wi-Fi SoC

1 MByte Serial Flash

Antenna

40MHz

AMW007

Wi-Fi

AMW007 SPECIFICATIONS
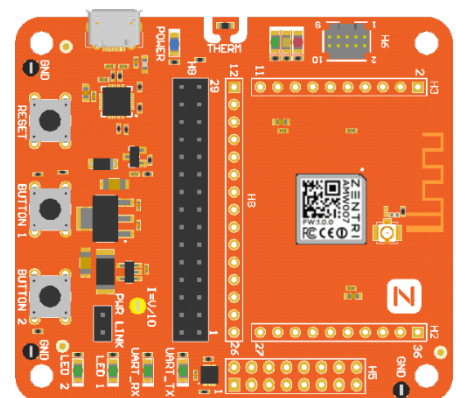
Wireless Standard	802.11b/g/n
Frequency Band	2.4 GHz, Channels 1-13
Protocols/Profiles	UDP, TCP, ICMP, DNS, HTTP(S), DHCP, SMTP, SNTP, OTA Update
Security	Wi-Fi – Open, WEP, WPA, WPA2-PSK Networking – TLS1.2, HTTPS
Data Throughput	>4 Mbit/s UART
Comms Range	>1000ft / 330m line of sight (λ/4 antenna)
RF Transmit Power	+19dBm (11b), +16dBm (11g), +14dBm (11n)
RF Receive Sensitivity	-94dBm (11b/g), -90dBm (11n)
Power Consumption @ 25°C	Standby: 10µA Sleep: 900 µA Wi-Fi Powersave: <330µA (DTIM=3)
Wi-Fi & Memory	32Bit 80MHz Wi-Fi SoC, on-board 8Mbit (1MByte) QSPI-serial flash
Serial Interfaces	UART, SPI, I2C
Peripherals	GPIO, ADC, PWM
Supply Voltage	+3.3V ±10%
Operating Temp.	-40°C to +85°C
Size	11mm x 12mm x 1.8mm (0.43" x 0.47" x 0.07")
Certifications	FCC, CE, IC
Software	ZentriOS-WL – ZentriOS Lite for Wi-Fi is pre-installed on all modules

AMW007 EVALUATION BOARD

Evaluating the AMW007 module using the ZentriOS Command API 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
- Power monitor for low-mA range power profiling
- Expansion headers to break out every pin on the module
- Reset button

Contact us: http://zentri.com/contact
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Or for more information, visit us online at https://zentri.com

AMW007(Spectre)	AMW007 surface mount module
AMW007-E03	AMW007 surface-mounted on ZentriOS Evaluation Board

ZENTRI

ABOUT ZENTRI, INC.

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