ZENTRI

AMW007 (Spectre)

PRE-ANNOUNCING the AMW007 'Spectre', a Wi-Fi networking module complete with full regulatory certification designed for low cost IoT edge devices.

The AMW007 module from Zentri is an advanced stand-alone Wi-Fi and networking solution.

It is an integrated module designed to avoid difficult RF layout and to enable designers to rapidly embed Wi-Fi and secure networking functionality into virtually any device. Each AMW007 is pre-installed with the ZentriOS-Lite embedded operating system, designed to enable fast product development. With dimensions of just 12mm x 11mm and a wide temperature range, the module is suitable for integration into most embedded applications.

The Wi-Fi device includes an integrated RF transmit power amplifier and provides superior Wi-Fi performance and full compatibility with all 2.4GHz 802.11b/g/n Wi-Fi networks.

The AMW007 microcontroller core operates at a frequency up to 80MHz and offers extensive I/O and peripheral interfaces.

The module is powered by a single 3.3V power supply and various powersave modes offer ultra-low power operation. Wake from low power sleep mode is possible using IO pins or the internal real-time clock; wake from ultra-low power standby mode is achieved using the dedicated wake pin.

The module has FCC & IC modular approval for use in the United States and Canada, CE approval for use in Europe and related approvals for use in other countries.

ZentriOS Lite is a component of the Zentri product family which includes ZentriDMS, ZentriCloud, and Zentri Mobile App SDK that comprise the Zentri Secure Connected Platform for IoT to transform product purchases into secure product experiences.

FEATURES

Self-contained ultra-low power Wi-Fi module with secure TCP network stack.

Integrated SPI-serial flash for software upgrades and user accessible read/write file system

Single band 2.4GHz IEEE 802.11b/g/n 1x1 Wi-Fi transceiver

Includes support for all Wi-Fi security modes in-cluding Open, WEP, WPA, and WPA2-PSK

32-bit processor operating up to 80MHz core frequency

Wake-up: Wake pin for ultra-low power operation

Interfaces (Some interfaces share module pins)

   UART: 1 x 4-wire, 1 x TX only up to 4.5Mbit/s

   SPI : SPI-Slave/Master (40MHz)

   GPIO: Up to 16 GPIOs (overlaid with peripherals)

   A/D converter: 1 x 10-bit resolution

   PWM: Up to 4 PWM outputs

APPLICATIONS

Industrial, M2M and Automation

   Environmental Monitoring
   Energy Monitoring
   Wireless sensing, remote data logging
   HVAC, power, light & thermostat control
   Appliance control

Security

   Door/Window monitoring
   Alarms
   Door and entry control

Consumer, Health & Fitness

   Fitness equipment
   Home health monitoring

Operating Voltage	3.3V (typical)
Operational Temperature Range	-40°C to +85°C
Size	12 x 11 x 1.8mm (0.47" x 0.43" x 0.08")
Weight	0.03 oz (1g)
Current consumption	@ 3.3V, 25°C
	Standby : 0.9mA
	Deep sleep / RTC : 20 / 60µA
	Sleep (Memory Retention) : 0.31mA
	Wi-Fi Powersave : 0.86mA (DTIM = 3)
	Active receive : 65mA
	Active transmit :
	☐ 100mA @ +0dBm ☐ 200mA @ +18dBm
Maximum RF transmit power	802.11b/g : +20 dBm 802.11n : +16 dBm
Minimum Receive sensitivity	802.11b/g : -93 dBm 802.11n : -71 dBm
Embedded Firmware	Pre-preprogrammed with ZentriOS Lite serial Wi-Fi application

https://www.zentri.com/ack/products/AMW007_E03_Medusa