ATC-2000WF 802.11b/g Wi-Fi to Serial Converter

Features

- Qualified 2.4GHz IEEE 802.11b/g transceiver
- High throughput, 4Mbps sustained data rate with TCP/IP and WPA2
- Ultra-low power (10uA sleep, 50mA Rx, 100mA Tx)
- On board ceramic chip antenna and U.FL connector for external antenna
- 8 Mbit flash memory and 128 KB RAM
- RS-232/422/485 interfaces
- 10 general purpose digital I/O
- 8 analog sensor interfaces
- Real-time clock for wakeup and time stamping
- Accepts 9V-24V Power supply
- Supports Adhoc connections
- On board ECOS -OS, TCP/IP stacks
- Wi-Fi Alliance certified for WPA2-PSK
- FCC / CE/ ICS certified and RoHS compliant.

Applications

- Wireless audio
- Remote equipment monitoring
- Telemetry
- Security
- Industrial sensors and controls
- Home Automation
- Medical devices

Description

The ATC-2000WF is a stand alone, wireless 802.11 networking module. Because of its small form factor and extremely low power consumption, the ATC-2000WF is perfect for mobile wireless applications such as asset monitoring, GPS tracking and battery sensors. The ATC-2000 module incorporates a 2.4GHz radio, processor, TCP/IP stack, real-time clock, crypto accelerator, power management and analog sensor interfaces. This complete solution is preloaded with software to simplify integration and minimizes development of your application. In the simplest configuration the hardware only requires four connections (PWR, TX, RX, GND) to create a wireless data connection. Additionally, the sensor interface provides temperature, audio, motion, acceleration and other analog data without requiring additional hardware. The ATC-2000WF is programmed and controlled with a simple ASCII command language. Once the ATC-2000WF is setup it can scan to find an access point, associate, authenticate and connect over any Wi-Fi network
(The ATC-2000WF only have UART function. Others functions only appear in embedded module)

Block Diagram
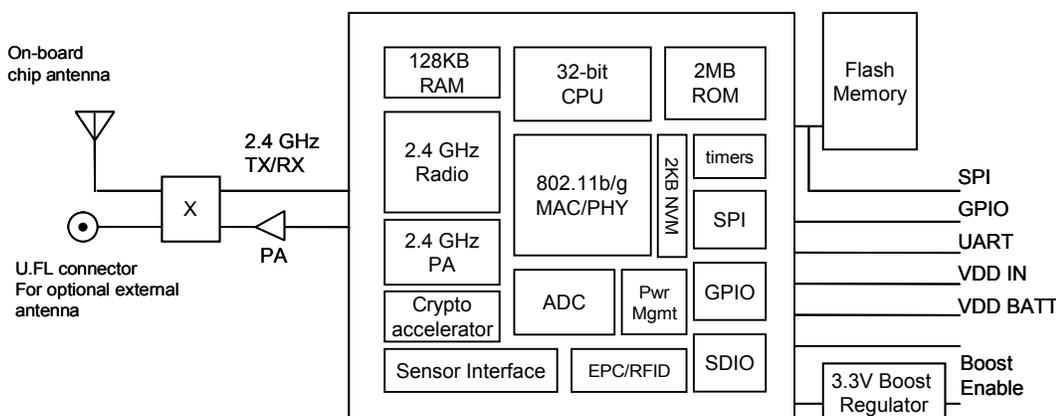
Overview

- Host Data Rate Up to 100 Mbps for SDIO, 44 Mbps for SPI and 2.7 Mbps for UART
- Throughput 4 Mbps with TCP/IP and WPA2
- Memory 128 KB RAM,2MB ROM, 2 KB battery-backed memory, 8 Mbit Flash.
- Intelligent, built-in power management with programmable wakeup
- Can be powered from 9V-24V
- Real time clock for time stamping, auto-sleep and auto-wakeup modes
- Configuration over UART or wireless interfaces using simple ASCII commands
- Over the air firmware upgrade (FTP), and data file upload.
- On board flash can be used for custom applications, data logging, stored data forwarding to the network
- Secure WiFi authentication WEP-128, WPA-PSK (TKIP), WPA2-PSK, EAP-TLS for WPA1 & WPA2 Enterprise
- Built in networking applications DHCP, UDP, DNS, ARP, ICMP
- 802.11 power save and roaming functions

Environmental Conditions

Parameter	Value
Temperature Range (Operating)	-40 ^{o}C ~ 85 ^{o}C
Temperature Range (Storage)	-40 ^{o}C ~ 85 ^{o}C
Relative Humidity (Operating)	≤90%
Relative Humidity (Storage)	≤90%

Electrical Characteristics

Supply Voltage	Min	Typ.	Max.	Unit
Supply Voltage VDD	9.0	9.0	24	VDC
Average power consumption				
Sleep		4		uA
Standby (doze)	-	15	-	mA
Connected (idle, RX)		40		mA
Connected (TX)		140	212	mA

Radio Characteristics

Parameter	Specifications
Frequency	2402 ~ 2480MHz
Modulation	DSSS(CCK-11, CCK-5.5, DQPSK-2, DBPSK-1)
Channel intervals	5MHz
Channels	1 - 14
Transmission rate (over the air)	1 – 11Mbps for 802.11b / 6 – 54Mbps for 802.11g
Receive sensitivity	-85dBm typ.
Output level (Class1)	+18dBm
Maximum RF input to U.FL connector	10 dBm

Ordering Information

Part Number	Description
ATC-2000WF	802.11b/g Wi-Fi To RS-232/422/485 Converter
For other configurations, contact ATC directly.	