

PAN9420 Full Embedded Stand-Alone Wi-Fi Module



[SUMMARY]

The PAN9420 is a 2.4 GHz 802.11 b/g/n embedded Wi-Fi module with integrated stack and API that minimizes firmware development and includes a full security suite. The module is specifically designed for highly integrated and cost-effective applications. The module includes a fully shielded case, integrated crystal oscillators, and a chip antenna.

The module combines a high-performance CPU, high-sensitivity wireless radio, baseband processor, medium access controller, boot ROM with patching capability, internal SRAM, and in-system programmable flash memory. The module's integrated memory is available to the application for storing web content such as HTML pages or image data.

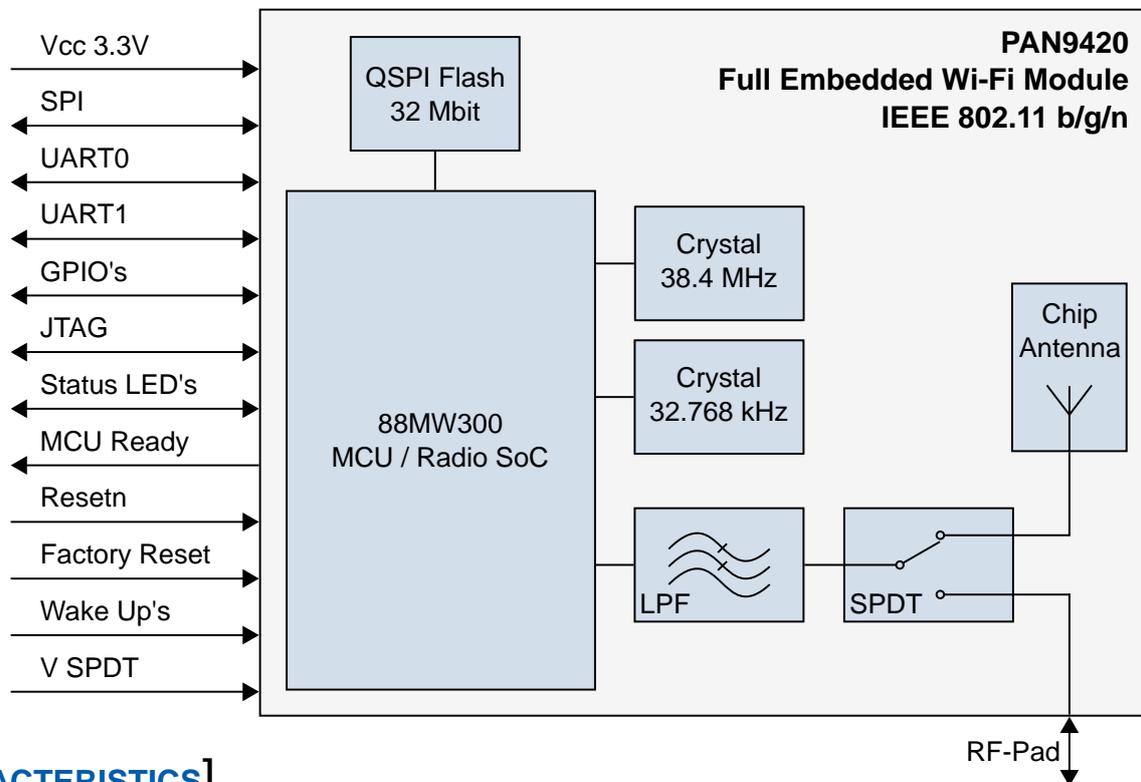
Parallel support of access point and infrastructure mode allows easy setup up of simultaneous Wi-Fi connections from the module to smart devices and home network routers.

The pre-programmed Wi-Fi SoC firmware enables client (STA), micro access point (uAP), and Ad-hoc mode (Wi-Fi Direct) applications. The transparent mode permits data to be sent from the PAN9420 UART unmodified to the air interface to smart devices, web servers, or PC applications.

[FEATURES]

- Full Embedded: full-featured network stack integrated
- Contains all necessary IoT functionality (Place&Play)
- Integrated webserver with AJAX/JSON for web applications
- No stack or software implementation needed on a Host-MCU
- Simultaneous support of Access-Point- & Infrastructure Mode
- IP configuration will be done fully-automatically
- DHCP server offers IP-configuration in AP-mode
- Evaluation Kit with pre-installed web application for quick prototyping
- Evaluation and development tool Wifigurator for Windows
- Access by names (<http://yourdevice>)
- Getting started tutorials, PC Tool, quickstart guide
- Two UART interfaces (command and binary data)
- Integrated QSPI flash for customer web contents and configuration file
- Programming via standard JTAG
- Integrated TCP/IP network stack: IPv4, ARP, and AutoIP
- Supports TLS/SSL,https,Wi-Fi security (WPA2) for secure connection
- Over-the-Air firmware update
- Wide temperature range of -40 °C to 85 °C

[BLOCK DIAGRAM]



[CHARACTERISTICS]

- Surface Mount Type (SMT) 29.0 mm x 13.5 mm x 2.66 mm
- Marvell® 88MW300 MCU/WLAN System-on-Chip (SoC) inside
- Tx power up to +16 dBm @ IEEE 802.11b
- Rx sensitivity of -97 dBm @ IEEE 802.11b DSSS 1 Mbps
- 20 Mhz channels up to 72 Mbps
- Power supply 3.0 to 3.6 V
- Current consumption 150 mA (mix mode Tx/Rx@11b, 11 Mbps), 75 mA Rx, 310 mA Tx peak
- Power down mode <1mA power consumption
- Low Power-Mode available

[DELTA PAN9420 vs PAN9320]

- PAN9320 replaceable by PAN9420 without changes on mother PCB
- Reduced power consumption in transmit, idle and power down
- Enhanced temperature range: -40°C ~ +85°C