

PAN9420

Fully Embedded Stand-Alone Wi-Fi Module

Panasonic



[OVERVIEW]

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, encryption unit, 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 of simultaneous Wi-Fi connections from the module to smart devices and home network routers.

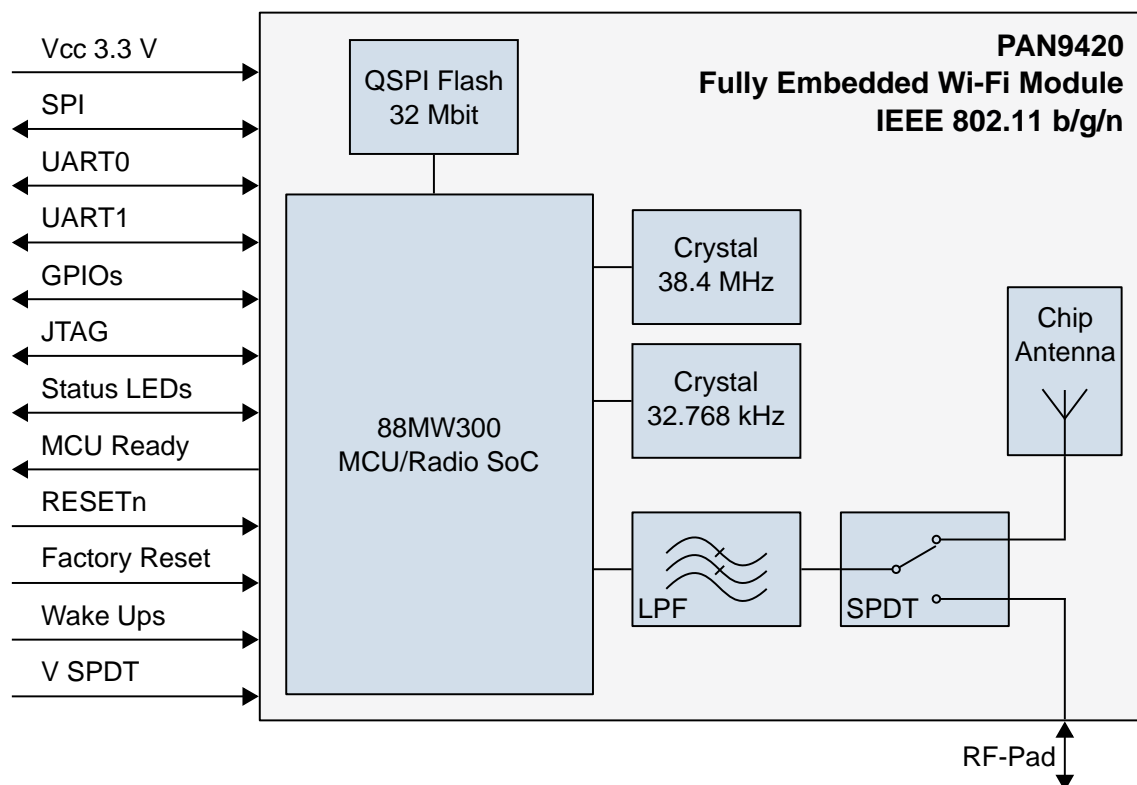
The pre-programmed Wi-Fi SoC firmware enables client (STA), micro access point (μ AP), and Ad-hoc mode (Wi-Fi Direct) applications. With the transparent mode, raw data can be sent from the UART to the air interface to smart devices, web servers, or PC applications.

[FEATURES]

- Fully embedded: integrated full-featured network stack
- 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
- Fully automatical IP configuration
- DHCP server offers IP configuration in AP mode
- Access by names (<http://yourdevice>)
- Integrated TCP/IP network stack: IPv4, ARP, and AutoIP
- Supports TLS/SSL, https, and Wi-Fi security (WPA2) for secure data connection
- Over-the-Air firmware update
- Two UART interfaces (command and transparent data)
- Integrated QSPI flash memory for customer web contents and configuration file
- Programming via standard JTAG
- Evaluation kit with pre-installed web application for quick prototyping available
- Evaluation and development tool WiFigurator for Windows
- Getting started tutorials, PC tool, quickstart guide
- Wide temperature range of -40 °C to +85 °C

WIREFLESS MODULES
Panasonic Industrial Devices Europe GmbH

[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 < 1 mA 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 to +85 °C