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PAN9310/9320 Series

Embedded WiFi Modules for Easy Deployment

Panasonic introduces a fully embedded WiFi module with an integrated stack and API that minimizes firmware development and includes a full security suite. The **PAN9310/9320 Series** is a standalone 2.4GHz WiFi module, supporting the IEEE 802.11 b/g/n standards designed for applications where a small form factor and high throughput data rates are required.

The module is a cost-effective, power efficient solution for WLAN applications. The **PAN9310/9320 Series** combines a high performance CPU, high sensitivity (-98dBm) 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 to store web content such as html pages or image data.

Coincident support of access point and infrastructure modes enable easy setup up allowing WiFi connections from the **PAN9310/9320 Series** to smart devices and home network routers, simultaniously. WLAN SoC firmware enables client (STA), micro access point (uAP) and Ad-hoc mode (Wi-Fi direct) applications. Transparent mode permits data to be sent from the **PAN9310/9320 Series** UART unmodified to the air interface to smart devices, web servers or pc applications.

The **PAN9310/9320 Series** is qualified to the IEEE 802.11 b/g/n standards. All Panasonic Bluetooth RF modules carry FCC, IC, CE and Bluetooth certifications. Panasonic calibrates and tests every module eliminating a time consuming application production process and cost. Panasonic cost engineering lowers component count and the application BOM. With a fully shielded case, integrated crystal oscillators and chip antenna contained in a footprint of just 29 x 13.5 x 2.66 mm³.

[1]**Qualified Projects Only**

Experimenter Kit

Panasonic's designer friendly **EVAL_PAN9320EMK** experimenter kit reduces design efforts and critical time to market. Product design cycles are greatly reduced using Panasonic's free of charge reference design and design review services . Software available from Marvell® contains applications, demonstrations and utilities that execute on the **PAN9320 Series**.
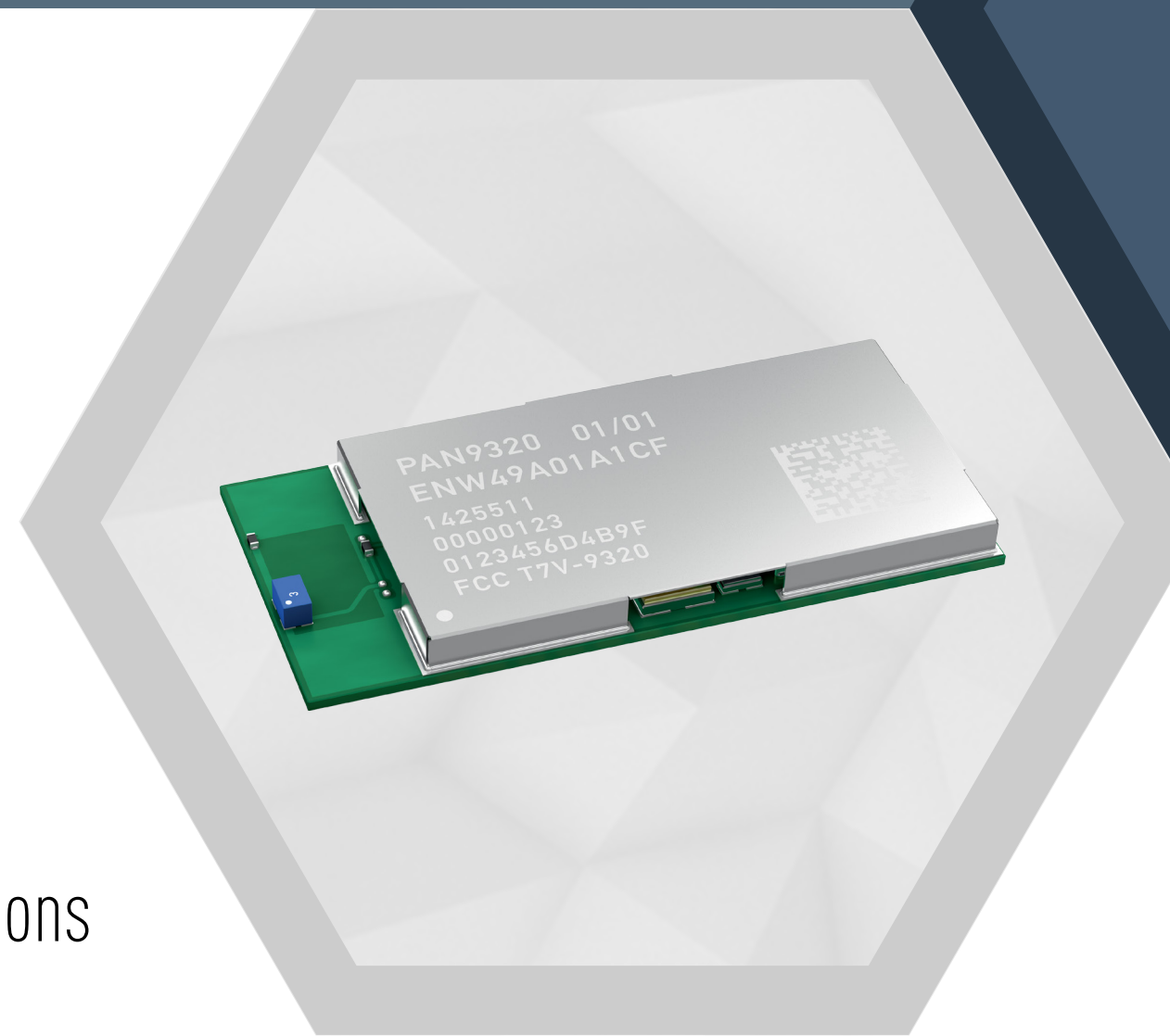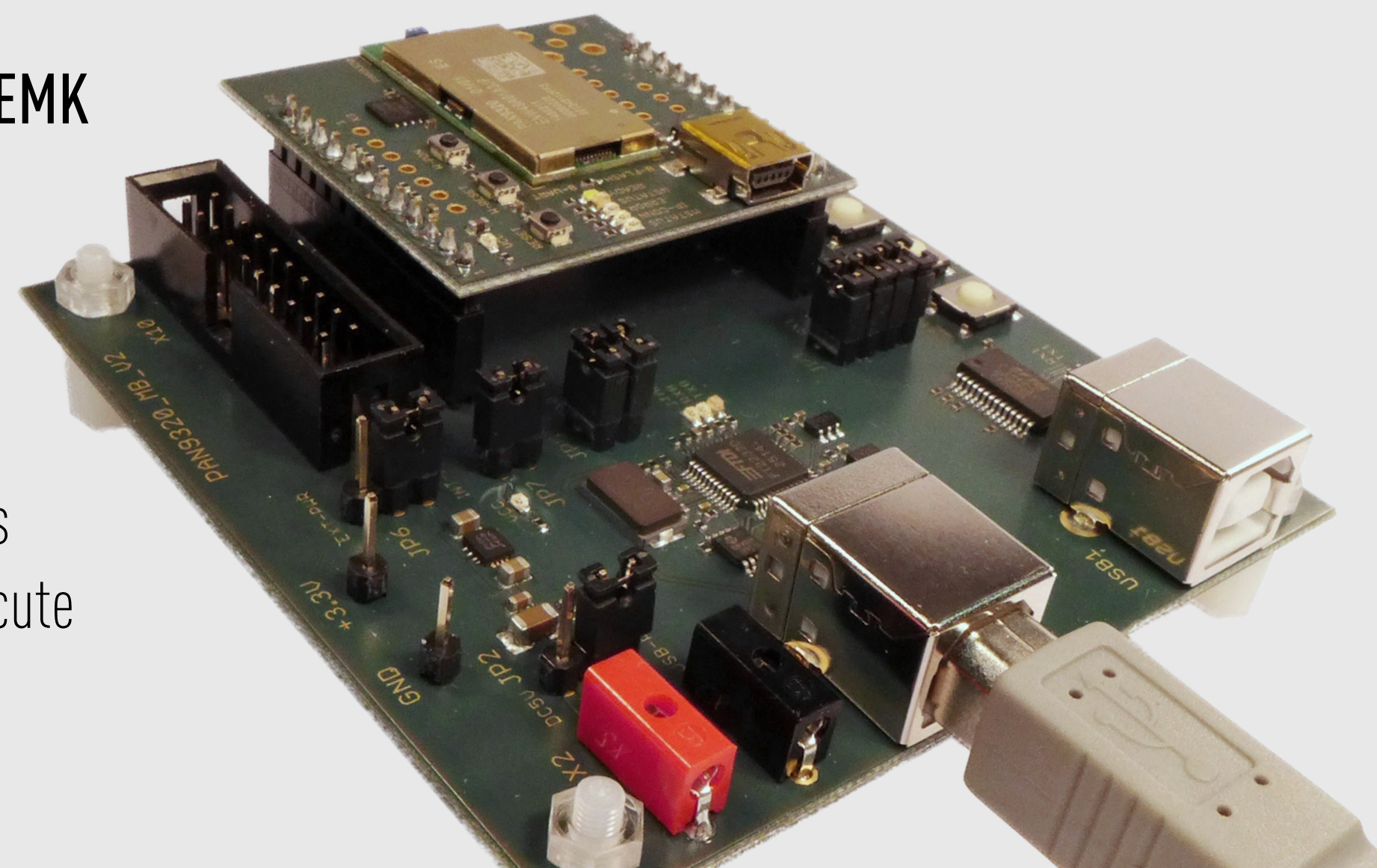
WiFigurator Software

Create detailed session log-files with Panasonic's exclusive Windows based **WiFigurator.** Read and write important values such as: Firmware Version, WiFi Driver Version, SSID, IP Address and Security Parameters.

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PAN9320   01/01
ENW49A01A1CF
1425511
00000123
0123456D489F
FCC T7V-9320

Features

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Surface Mount Type 29.0 x 13.5 x 2.66 mm³	Wireless Update of Radio Driver and MCU Firmware with Integrated Bootloader
Fully Embedded WiFi module (with integrated MCU, Radio, WiFi stack, antenna and crystals)	Marvell® 88W8782 WLAN System-on-Chip (SoC) and 88MC200 (MCU) Inside
Tx Power up to +18 dBm (IEEE 802.11b CCK) and 14dBm (IEEE 802.11g ODFM)	Integrated, Extendable 1.5MB Flash for Web Content and Configuration File
High Rx Sensitivity -98 dBm (IEEE 802.11b DSSS 1Mbps)	Easy to use Evaluation Board for Quick Development and Reduced time to Market
Telnet, HTTP, AJAX and JSON Interfaces	Use of Web Technologies (HTML, JavaScript), no need for Wi-Fi Stack implementation
Simultaneous Access point and Infrastructure modes	Ready to use internet access (integrated Email Server and Cloud Communication Client)
Supports TLS/SSL, https and WiFi security (WPA2) for Secure Data Connections	Getting started Tutorials, Libraries, and APIs
Plug-n-Play Name Services (DHCP, DNS) and Custom Name Access (http://yourdevice)	Evaluation and Development software Wifigurator for Windows

Applications

Wearables
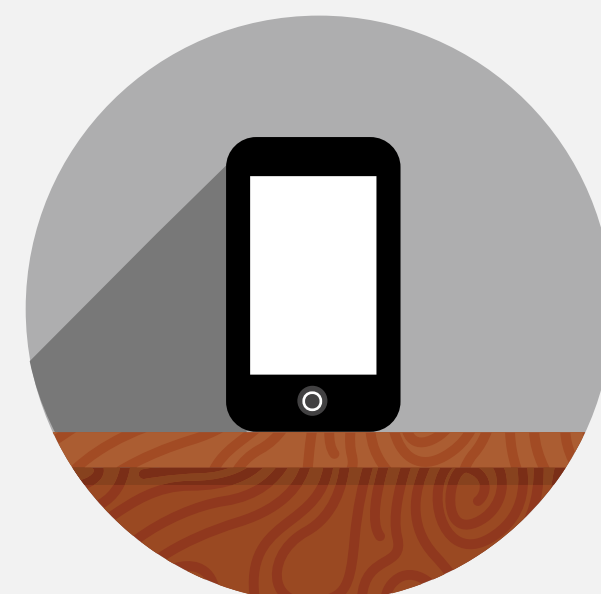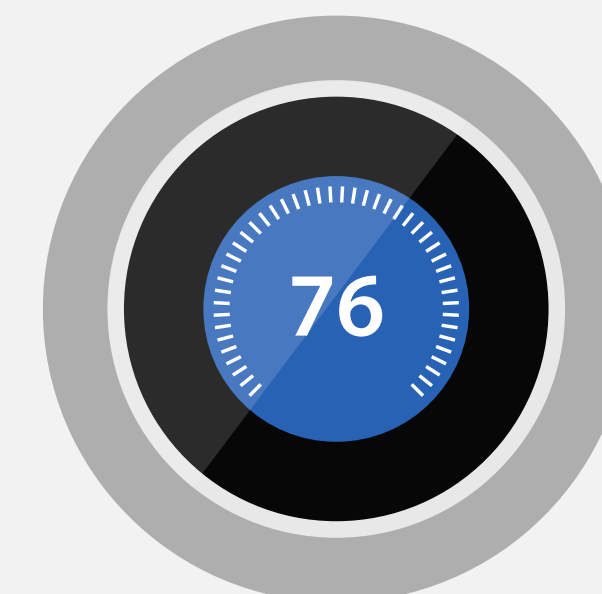
Portable Electronics

Asset Tracking

Medical
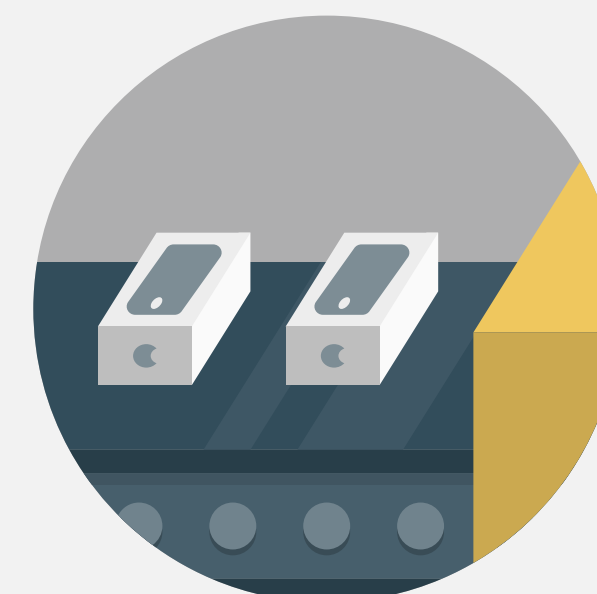
Industrial Controls

76

Building Management

Gaming Platforms

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Technical Parameters

Parameter	Value	Condition / Note
Software		Full Embedded
Rx Sensitivity	-98 dBm	@ 1M-DSSS*
Tx Power	+18 dBm	@ 11b
Power Supply	3.0 to 3.6 V	
Current Consupmtion	430 mA, 160 mA	Tx, Rx max @ 11b
Centre Frequency	2.4 GHz	802.11 b/g/n
Operating Temperature Range	-30 to 70°C	
Size	29.0 x 13.5 x 2.66	mm

Part Number Information

Part Number	Description
ENW-49A01A3EF	PAN9320 Series, Embedded WiFi module, VIPAR stack., -30-70°C, chip antenna
ENW-49A01C3EF	PAN9310 Series, Embedded WiFi module, VIPAR stack., -30-70°C, 50 ohm pad
EVAL_PAN9320EMK	PAN9320 Experimenter Kit, motherboard and daughter board
EVAL_PAN9320ETU	PAN9320 daughter board

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Block Diagram