Press RELEASES

PR-No. 05 – 16. May 2024

Announcing ESP32-H4: Low-power SoC with 802.15.4 + Bluetooth 5.4 (LE) Connectivity

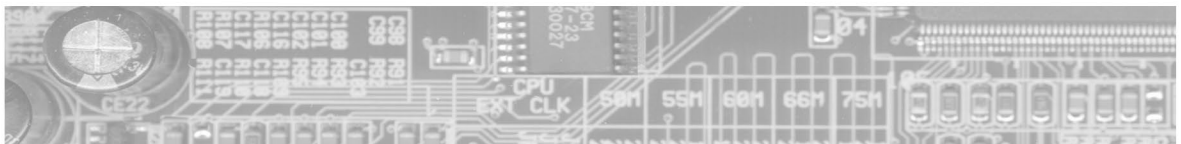
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Shanghai, China, April 11, 2024

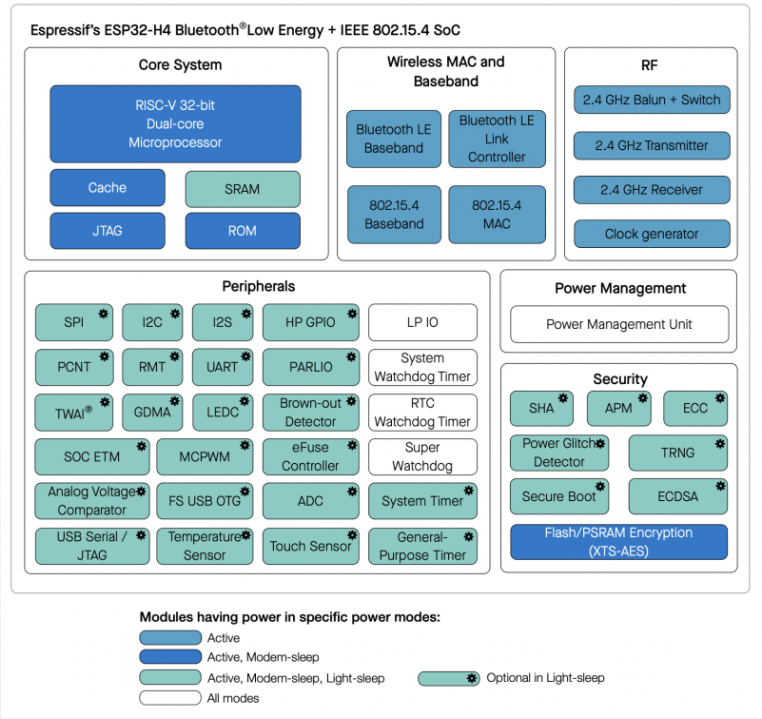
Espressif Systems (SSE: 688018.SH) introduces the ESP32-H4, expanding its 802.15.4 and Bluetooth LE portfolio. This next-generation SoC caters to increasing demands for low-power wireless devices, boasting significant upgrades in power consumption, connectivity features, and memory expansion capabilities. The ESP32-H4 represents a significant advancement for Espressif's Bluetooth LE chips, transitioning from Bluetooth 5.0 to Bluetooth 5.4.

The ESP32-H4 integrates essential connectivity technologies, including IEEE 802.15.4 and Bluetooth 5.4 (LE), crucial for low-power mesh architectures, supporting Thread 1.3, Zigbee 3.0, and Bluetooth Mesh 1.1 protocols.

The ESP32-H4 is a key chip designed for the Bluetooth Low Energy market. It introduces advanced features such as LE Audio, LE Isochronous Channels (BIS and CIS), Connection Subrating, Periodic Advertising with Responses (PAwR), as well as Direction Finding using Angle of Arrival (AoA) and Angle of Departure (AoD), expanding its potential applications. LE Audio is the next generation of Bluetooth Audio, making audio streaming over Bluetooth Low Energy possible. Bluetooth Direction Finding significantly enhances location accuracy compared to Bluetooth RSSI positioning. PAwR makes the advertising can be bidirectional between a control device (e.g. gateway) and thousands of ultra-low-power nodes, which is targeted for



retail applications such as electronic shelf labels, as well as for warehouse applications and sensor connectivity.



ESP32-H4 boasts a dual-core, 32-bit RISC-V microcontroller clocked up to 96 MHz, equipped with 320KB of on-chip SRAM, 128KB of ROM, and supports external flash memory. Noteworthy is its support for up to 4MB of PSRAM, providing enhanced memory management flexibility. ESP32-H4 places a strong emphasis on affordable security, integrating features like secure boot, flash encryption, and cryptographic accelerators, ensuring the protection of private keys. The ESP32-H4 enables the creation of low-power battery-operated devices through its integrated DC-DC supply, significantly optimizing power consumption of the SoC through efficient voltage regulation and lower supply voltage, combined with selective activation of peripherals in low-power modes, enabling extended battery life.

The significant enhancements in microcontroller and wireless capabilities position it as an optimal solution for sophisticated wearables, healthcare devices, LE Audio devices,

low-power sensors and other complex IoT applications. The integration of IEEE 802.15.4 and Bluetooth LE connectivity along with low power consumptions facilitates the creation of devices for extended battery life. It is an ideal solution for battery powered Matter over Thread devices.

It integrates up to 35 GPIOs, encompassing standard microcontroller peripherals like I2C, I2S, SPI, UART, LED-PWM, ADC, Timers, DMA, TWAI, USB-OTG, and MCPWM. Specialized peripherals include the Event Task Matrix for automation-triggered tasks. The inclusion of 14 touch sensing GPIOs makes the ESP32-H4 suitable for applications with Human Machine Interaction requirements.

The ESP32-H4 will be backed by Espressif's robust IoT Development Framework (ESP-IDF), enabling customers to leverage their existing knowledge of the platform. Furthermore, the ESP-Matter-SDK will incorporate ESP32-H4 support, facilitating the creation of battery-operated Matter-enabled products.

Availability and Pricing

For inquiries about the ESP32-H4 SoC, please contact us. More Information about availability and pricing, please visit email: sales.europe@macnica.com.

Contact:

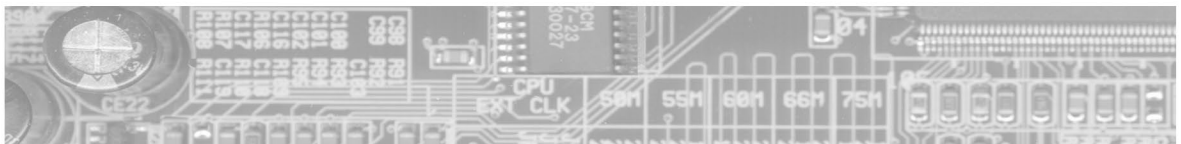
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About Espressif Systems

Espressif Systems (688018.SH) is a public multinational, fabless semiconductor company established in 2008, with offices in China, the Czech Republic, India, Singapore and Brazil. We have a passionate team of engineers and scientists from all over the world, focused on developing cutting-edge wireless communication, low-power, AIoT solutions.



We have created the popular ESP8266, ESP32, ESP32-S, ESP32-C and ESP32-H series of chips, modules and development boards. By leveraging wireless computing, we provide green, versatile and cost-effective chipsets. We are committed to offering solutions that are secure, robust and power-efficient. At the same time, by open-sourcing our technology and solutions, we aim to enable developers to use Espressif's solutions globally and build their own smart-connected devices.

In July 2019, Espressif made its Initial Public Offering on the Sci-Tech Innovation Board (STAR) of the Shanghai Stock Exchange (SSE).

For more information, please visit https://www.espressif.com.

About Macnica ATD Europe GmbH

Macnica's ATD Europe GmbH, (former Macnica GmbH), was originally established in the UK in 2006, and moved to Germany in July 2008, to increase efficacy of its service for European customers.

By it's acquisition of the Munich based company Scantec Mikroelektronik in 2014 Macnica Europe formed a powerful semiconductor distribution with headquarter in Ingolstadt and offices in Munich, Regensburg, Milton Keynes (UK) and Warsaw offering an attractive and competitive portfolio of highly sophisticated devices.

Macnica provides end to end support from design-in to production through its global service network to its customers, regardless of the final destination of the product shipment to customers' manufacturing locations.

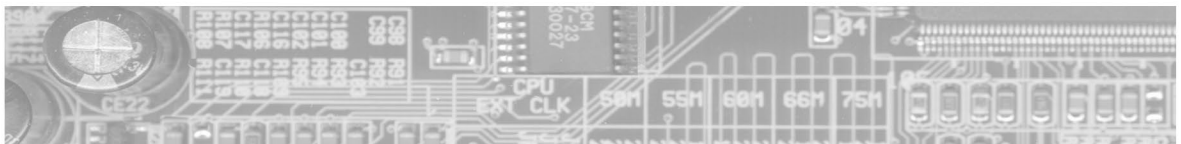
About Macnica ATD Europe S.A.S.

Founded in 1990 as ATD Electronique, Macnica ATD Europe headquarter offers innovative components dedicated to imaging applications for the European market. Its product portfolio includes: image sensors (CCD, CMOS, InGaAs, Thermal etc.), optics, interface circuits, FPGA & IPs, imaging processors, cables and OLED microdisplays.

It also covers development tools and design services enabling fast and efficient realization of new high-performance camera systems for markets such as machine vision, medical, life sciences, surveillance, automotive and others. After the acquisition of the company by Macnica Inc. as of October 1, 2020 the company operates under the name Macnica ATD Europe.

About Macnica, Inc.

Macnica was established in 1972 as a semiconductor distribution company headquartered in Yokohama, Japan, and has over 85 sales offices worldwide in eastern Asia, Eu-



rope and the USA. Total number of employees is over 3,900 and its consolidated revenue for fiscal 2021 was approximately US$ 7.6 B.

Macnica is famous for having an excellent engineering team of more than 900 application support engineers, IC designers and software developers with strong focus on providing technical support for its customers including custom design services. Macnica is continuing to extend its presence globally by having successful partners in strategic areas in the electronics market.

More information about Macnica: https://www.macnica.com/global/en/home.html.