

## PRESS RELEASE

### Rutronik develops first development kit for AI-based applications to implement EDGE intelligence

**Ispringen, 01. September 2020** – The first development kit developed by Rutronik, the RUTDevKit-STM32L5, is a complete solution for AI-based applications running on an MCU platform. It enables hardware and firmware developers to deliver proof-of-concepts within a short space of time. The focus here is firmly on security and data protection, short latency periods, low energy consumption and adequate storage resources.

Data generated by (I)IoT ((Industrial) Internet of Things) devices is increasingly evaluated on MCU platforms within the application or close to the MCU-based embedded system. This is particularly the case in industrial environments, whether for security reasons or because of the required latency periods. When it comes to implementing this Edge AI or Edge Intelligence (EI), Rutronik now offers a unique development kit that contains all the necessary components. Every single module is from the Rutronik product portfolio, while the complete BOM is available at [www.rutronik.com/development-kit](http://www.rutronik.com/development-kit).

The RUTDevKit-STM32L5 is based on the ultra-low-power high-performance microcontroller STM32L562ZET6Q, which operates at 110MHz. Its 32bit RISC-Core Arm Cortex-M33 with Arm TrustZone offers hardware-based security features that ensure data security of the EI application during the inference phase. Thanks to Arm TrustZone, one core provides two independent processing environments: A protected one for cyber protection and sensitive code, and an unprotected one for the execution of untrusted code. Further, Arm TrustZone also supports Secure Boot, thereby enabling secure read and write protection for the integrated memory (64Mbit PSRAM and 128Mbit NOR flash) and cryptography acceleration. Arm TrustZone can also include I/O ports, a peripheral function and flash or SRAM regions. The Octo SPI interface to PSRAM and the Quad SPI interface to the NOR flash memory along with the fast A/D converter of the microcontroller support short latency periods.

In addition to the microcontroller memory, the RUTDevKit-STM32L5 facilitates use of an SD card with several GB as well as a protected area to securely store both raw data and inference data of the AI model.

#### About Rutronik

Rutronik Elektronische Bauelemente GmbH is one of the leading distributors in Europe. With over 80 local offices around the globe, the company has a successful international network. The broadline distributor supplies semiconductors, passive and electromechanical components as well as boards, storage, displays & wireless products. The company's primary target markets are the automotive, medical, industrial, home appliance, energy and lighting industries.

The ranges RUTRONIK **EMBEDDED**, RUTRONIK **SMART**, RUTRONIK **POWER** and RUTRONIK **AUTOMOTIVE** provide customers with specific products and services in groups tailored to the respective applications. Expert technical support for product development and design-in, individual logistics and supply chain management solutions as well as comprehensive services complete its scope of performance.

Founded in 1973 by Helmut Rudel in Ispringen, Germany, the company employs more than 1,900 people worldwide and achieved sales of around 1.08 billion euros in the 2019 financial year.

The [rutronik24.com](http://rutronik24.com) e-commerce platform gives users access to the online catalog, the Procurement Area and the Product Change Notifications (PCNs) with just a single login. The online catalog provides an overview of all products including detailed data sheets, and intelligent search functions make selection easier. The ‚mass quotation‘ link allows customers to use their parts list for convenient purchasing. In the Procurement Area, customers can obtain a quick overview of their current and past orders, tenders, article lists, safety stock level, contracts, consignment stock and traceability. The current catalogs, procurement information, PCNs and also a wide range of media are available for downloading.

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Equipped with CAN FD and RS485 interface, the kit enables fast transmission of large amounts of data.

The USB-C power supply features Protection IC, and low power functions can be tested with a battery. Additionally, there is the on-board ST-LINK V2 debugger / programmer as well as Arduino interfaces for supplementary boards, such as an Anybus communication module that enables products to communicate via all common field buses and on Industrial Ethernet networks, e.g. EtherCat.

The kit also includes software and sample firmware, including a TrustZone demo, a test mode demo for CAN FD, an RS485 Modbus demo, a USB power supply and tamper detection demo, and a dual bank flash bootloader demo.

The RUTDevKit-STM32L5 is available from Rutronik at [www.rutronik.com/development-kit](http://www.rutronik.com/development-kit).

### Overview of the RUTDevKit-STM32L5 components:

#### Hardware:

- STM32L562ZET6Q Cortex®-M33 512KB Flash
- APS6408L 64Mbit Octo-SPI PS-RAM
- EN25QH128A 128Mbit Quad-SPI NOR Flash
- CAN FD with TLE9251VLE driver
- USB-C Power Supply with TCPP01-M12 Protection IC
- RS485 Interface with ST3485EDBR driver
- Slot for Micro-SD card
- On-Board ST-LINK V2 debugger / programmer
- Arduino extension connector
- 4-layer design

#### Software / Firmware:

- CAN-FD test mode demo
- RS485 Modbus demo
- USB power supply demo
- Dual bank flash bootloader demo
- TrustZone® demo
- Tamper detection demo

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