

Embedded PC for outdoor and vehicle computing with CAN option

Spo-Comm has released an AMD Ryzen V1000 processor series for outdoor DS applications. With the fanless cooled Spo-Book Rugged Ryzen, the hardware manufacturer from Nuremberg, Germany is launching an embedded PC.

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Outdoor digital signage powered by AMD (Photo: Spo-Comm)

The PC comes with four times 4096 pixels at 60 Hz graphics performance and is suitable for outdoor and vehicle computing. The centerpiece is the AMD Ryzen V1807B embedded processor with four times 3,35 GHz (maximum 3,8 GHz). This unifies AMD's Zen CPU and Vega GPU architectures into an APU (= Accelerated Processing Unit). This combination of CPU and graphics power provides exceptional computing power so that processing and playback of high-resolution multimedia applications can compete with dedicated graphics cards. More facts about the CPU are its four cores, eight threads, and 11 compute units which require 12 W to 54 W of power.

Expansion options

WiFi, 4G, and GPS modules can be connected via one m.2 and three m-PCIe interfaces. A CAN network is also possible. When using an LTE module, the two SIM card slots on the front panel allow to dial into two different mobile networks. This is especially useful to avoid dead spots or if travelling near country borders. Optionally available is also a battery pack, which protects against loss of data during power outages, as well as standardized wall mounts according to Vesa or DIN Rail.

Due to its completely enclosed housing, the product is suitable for outdoor digital signage. Whether it's freezing cold or extreme hot - the embedded PC runs in temperature ranges of -40 °C to +70 °C and is therefore suitable for all climatic conditions. With a 9-V to 48-V range input and a massive body that absorbs shock and vibration, the vehicle PC enables mobile applications, such as in emergency vehicles.

The passively cooled housing with the dimensions 260 mm x 226 mm x 89 mm provides space for numerous connections. The front panel has four USB 3.0 ports and four LAN interfaces for connecting external periphery. In addition to two SIM card slots, the power button and some indicator lights, among others for the HDD, can be found here. On the back panel there are four more LAN interfaces and three COM ports. Furthermore, there are four display ports, which allow the playback of multimedia content with a resolution of four times 4096 pixels at 60 Hz. This is completed by three audio ports that cover the areas MIC IN, Line OUT, and Line IN.

Hardware and software equipment

For enough working space, the PC can be supported with up to 32 GiB of DDR4 memory. There is, as well, space for up to two HDDs or SSDs with a maximum of 1 TiB memory. They can also be connected to RAID and are suitable for hot swapping. This means, that the components can be replaced while the PC is running. On the software side, the operating systems Windows 10 in the versions IoT, Home or Professional are running as well as Linux Ubuntu.

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