

CAN Newsletter Online

COMPUTER-ON-MODULE

Applications in automation and industrial control

Advantech announced the ROM-5620 Smarc 2.1 module, its first Arm Cortex A35 based on the NXP i.MX8X application processor. The product is suited for automation equipment and HMI (human machine interface) devices.

The product adopts an automotive grade SoC (system on chip) and related industrial grade components to provide operating temperature from -40 °C to +85 °C. Equipped with AIM-Linux and Wise-Deviceon software services, the device provides industrial-focused apps and SDK add-ons within the Linux BSP, explained the company. Two CAN interfaces are available. Other features include two GbE Ethernet controllers, software configurable display solutions with dual channel LVDS or MIPI-DSI and a range of I/O interfaces like PCIe 3.0, USB 3.0, and 4-Lane MIPI-CSI2. The product can be extended with CANopen and J1939 protocols.

The module is powered by NXP's i.MX 8X SoC, with 2 core to 4 core energy-efficient Cortex-A35 processor for mid-range automation and industrial market segments. One Cortex-M4F core is for real-time processing, and one Tensilica Hi-Fi 4 DSP for audio and voice codec execution. For graphic performance, the Vivante GC7000 Lite GPU (general processing unit), provides 4000 H.265 capable decoder, and dual 1080P60 display controller.



The product is armed with Wise-Deviceon for automated device onboarding, remote device monitoring, and software over-the-air updates (Source: Advantech)

PaaS & Cloud Platform	WISE-DeviceOn			
App Add-Ons	AIM-Linux/Security <ul style="list-style-type: none"> Secure Boot License Management Cipher SDK 	AIM-Linux/Launcher <ul style="list-style-type: none"> Quick Boot Multi Boot Boot Logo Auto Run Splash Screen 	AIM-Linux/Management <ul style="list-style-type: none"> SNMP Multi-Screen Control Audio Path Control 	AIM-Linux/Distribution <ul style="list-style-type: none"> Yocto Debian Realtime Ubuntu
	AIM-Linux/DevelopSDK <ul style="list-style-type: none"> Qt HTML5 EdgeX Foundry Java Python Go 	AIM-Linux/Diagnostic <ul style="list-style-type: none"> RF Diagnostic Connection Diagnostic System Diagnostic 	AIM-Linux/Protocol <ul style="list-style-type: none"> CANopen J1708 J1939 MODBUS 1-Wire 	AIM-Linux/Edge AI <ul style="list-style-type: none"> HD PMQ Pre-trained Models Edge AI APP
Unified Embedded Platforms	 Unified Core	 Industrial I/O Drivers	 Performance Optimization	 Peripheral Integration

(Source: Advantech)

Multiple I/O expansion options for digitalized equipment with automated control following the Smarc 2.0 standard, ROM-5620 supports 2 GiB LPDDR4 memory, 16 GiB eMMC, and dual GbE LAN controllers. It also provides a display solution for one dual channel LVDS or two 4-lane MIPI-DSI through software configuration. I/O expansion choices include USB 3.0, two USB 2.0, PCIe3.0, SDIO, and three Uarts for wireless module connectivity. These expansion choices together with two CAN, one 4-lane MIPI-CSI2, four I2C, two SPI, and twelve GPIO interfaces, cover requirements for automated control and ruggedized application.

Advantech supports an Allied, Industrial, and Modular (AIM) framework for Linux applications that help accelerate software development via support, said the company. AIM-Linux services offer embedded OS platforms and industrial-focused apps and software development kits through which users can select the embedded software tools they need to focus on their application software development.

