

AI Embedded Box PCs

COMPACT AI Rugged Series

Computer Vision Edge Unit with NVIDIA Jetson TX2 NX

LTE / GNSS / Wi-Fi



2x USB 2.0
microSD
DisplayPort

Image similar



Power Supply
9 ... 45VDC

CAN

2x Gbit LAN

USB 3.1

HDMI

Rugged AI Computer

RPC/COMPACT A2N

This fanless COMPACT A2N generation is based on the NVIDIA Jetson TX2 NX processor module and offers a wide range of interface options.

The robust and uncompromising industrial design allows the implementation in the most demanding AI applications and guarantees long term availability.

- 24/7 continuous operation
- Extended AI Computing
- IP67 protection
- Product lifecycle management
- Long term availability with fixed BOM



NVIDIA. Linux for Tegra (L4T)

Product Highlights

Ultra rugged
Sealed housing, protection class IP67
Maintenance free
Power Ignition controller
No moving parts / passively cooled
Pressure equalization membrane
Resistance to chemicals
Long term availability (fixed BOM)

Product Features

256-core NVIDIA Pascal™ GPU Dual-Core
NVIDIA Denver 2 64-Bit CPU Quad-Core
ARM® Cortex®-A57 MPCore
4GB 128-bit LPDDR4x RAM soldered on board
M.2 NVMe slot for storage expansion up to 2TB
Ethernet, USB, active / passive CAN
Optional LTE & WiFi extensions
Aluminum housing

Markets / Applications

Autonomous Mobile Robots (AMRs)
Agriculture
Construction
Transportation
Off-Highway Vehicles
Heavy Industry
Outdoor applications



Order Code RPC/RSA2NH20-A102S^{1,5}

| Processor module / Performance | | |
|---|-----------------------|-------------------|
| NVIDIA Jetson TX2 NX 256-core NVIDIA Pascal™ GPU | | • |
| 6-Core ARM CPU (Dual-Core NVIDIA Denver 2 64-Bit CPU and Quad-Core ARM® Cortex®-A57 MPCore) | | • |
| AI Performance | | 1.33 TFLOPs |
| Memory / Storage | | |
| Data Cache Size | | 2MB |
| 128-bit LPDDR4 RAM soldered on board | | 4GB |
| eMMC 5.1 Flash Storage on board | | 16GB |
| M.2 2280 Key M socket (for NVMe SSD) ⁵ | | 1 |
| microSD card socket ² | | 1 |
| Features | | |
| Real time clock (RTC) with battery backup Renata CR2477N (950mAh) | | • |
| Hardware Watchdog & Temperature supervisor | | • |
| Inertial measurement unit (IMU) ¹ STMicroelectronics ISM330DHCXTR | | on request |
| Buzzer | | on request |
| Communication Interfaces | | |
| Video output <small>behind the service cover</small> | | DisplayPort 1.4 |
| Internal USB version 2.0 OTG <small>behind the service cover</small> | (micro USB Type AB) | 1 |
| USB version 2.0 <small>behind the service cover</small> | (Type A) | 2 |
| Video output | | HDMI 2.0 |
| USB version 3.1 (5 Gbit/s) | (Type A) | 1 |
| Ethernet 10/100/1000 BASE-T (1x native, 1x I210-IT) | (M12 female, x-coded) | 2 |
| CAN 2.0A / CAN 2.0B (active/passive), CAN FD supported, isolated | (M12 female, a-coded) | 1 |
| Mini PCIe socket ² | | 2 |
| I2C bus ² | | 1 |
| Serial RS232 ¹ | (M12 female, a-coded) | on request |
| USB version 2.0 ¹ | (M12 female, a-coded) | on request |
| MIPI CSI-2 / GMSL2 / FPDLinkIII Camera interface ¹ | | on request |
| Wireless Connectivity | | |
| Cellular 4G Module (LTE/UMTS/GSM) with built-in GNSS | | none |
| Wireless LAN IEEE 802.11a/b/g/n/ac dual-band 2x2 MIMO & Bluetooth | | none |
| High precision GNSS module ¹ u-blox ZED-F9R / F9P | | none |
| Technical Data | | |
| Dimensions [mm] (housing, incl. mounting) | | w245 x h66 x d165 |
| Net weight [gram] | | ~2300 |
| Non isolated Input voltage, with Ignition controller, reverse polarity protected | (M12 male, a-coded) | 9 ... 45VDC |
| Idle power consumption typ. in Watt @ 24V without Add-Ins | | ~8.5 |
| Environmental Conditions | | |
| Operating temperature ³ | | -25°C ... +70°C |
| Storage temperature | | -25°C ... +85°C |
| Ingress protection standard according to EN60529 | | IP67 |
| Conformal coating ⁴ | | on request |
| Shock (designed to meet) | | EN60068-2-27 |
| Vibration (designed to meet) | | EN60068-2-64 |
| EMI-Conformity (designed to meet) | | EN55032 / EN55035 |
| Safety (designed to meet) | | EN62368-1 |
| Radio and Telecommunication (designed to meet) | | n/a |
| estimated MTBF @ 25°C ambient <small>excluding battery</small> | | ~550 000h |

¹Please contact factory for minimum order quantities

²Internal connector

³Depending on installation situation and interface connection. Derating of max. operating temp. is possible when using the cellular LTE module. Please see user documentation.

⁴On all possible components (excl. TX2 NX module, connectors and wireless devices)

⁵It is possible to equip the products with an Industrial grade Apacer PV210 NVMe SSD. Retrofitting an SSD is not possible by the user without complete disassembly. Use these part codes:

RPC/RSA2NH20-[A/B]102S-01 = 120GB | RPC/RSA2NH20-[A/B]102S-02 = 240GB | RPC/RSA2NH20-[A/B]102S-05 = 480GB | RPC/RSA2NH20-[A/B]102S-10 = 960GB

⁶On products version 2.0 and up, these LTE and Wi-Fi modules have replaced the previously used Sierra Wireless MC7455 and SparkLAN WPEB-263ACNI(BT) due to these modules going EOL.

Product specifications subject to change without notice. | All data is for information purposes only and not guaranteed for legal purposes. Information in this data sheet has been carefully checked and is believed to be accurate. However, no responsibility is assumed for inaccuracies. Please refer to the user documentation for additional product specification.

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industrial computing

Assured Systems

Assured Systems is a leading technology company with over 1,500 regular clients in 80 countries, deploying over 85,000 systems to a diverse customer base in 12 years of business. We offer high-quality and innovative rugged computing, display, networking and data collection solutions to the embedded, industrial, and digital-out-of-home market sectors.

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