AI Vehicle Computer

COMPACT AI Vehicle Series

Computer Vision Edge Unit with NVIDIA Jetson TX2 NX

optional
LTE / GNSS / Wi-Fi

2x USB 2.0
microSD
DisplayPort

Image similar

Power Supply
9 ... 45VDC

CAN

2x GBit LAN

USB 3.1

HDMI

IPC/COMPACT A2N - RS

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 mobile AI applications and guarantees long term availability.

- 24/7 continuous operation
- Extended AI Computing
- Passively cooled, no moving parts
- Long term availability with fixed BOM

NVIDIA Linux for Tegra (L4T)

Product Highlights

Maintenance free
Power Ignition Controller
Shock and vibration resistant
LTE, GNSS and Wi-Fi connectivity options
No moving parts / passively cooled

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, passive or active CAN
LTE, GNSS & WiFi options
Aluminum & Stainless steel housing
Protection class IP65

Industries / Applications

Autonomous Mobile Robots (AMRs)
Automotive
Transportation
Robotics
Agriculture
Construction Vehicles

CE

Your partner for reliable embedded computer solutions.

Order Code   IPC/RSA2NH20-E102S[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 behind the service cover		DisplayPort 1.4
Internal USB version 2.0 OTG behind the service cover	(micro USB Type AB)	1
USB version 2.0 behind the service cover	(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, excl. mounting)		w182 x h60 x d127
Dimensions [mm] (housing, incl. mounting)		w218 x h60 x d127
Net weight [gram]		~1600
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		IP65
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
MTBF @ 25°C ambient excluding battery		~550 000h

[1] Please contact factory for minimum order quantities

[2] Internal connector

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

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

[5] It 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:
  IPC/RSA2NH20-[E/F]102S-01 = 120GB | IPC/RSA2NH20-[E/F]102S-02 = 240GB | IPC/RSA2NH20-[E/F]102S-05 = 480GB | IPC/RSA2NH20-[E/F]102S-10 = 960GB

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