

AI Vehicle Computer

COMPACT AI Vehicle Series

Intelligent Machine Learning Unit with NVIDIA Jetson TX2 NX

first draft
preliminary

optional
LTE / GPS / Wi-Fi



2x USB 2.0
microSD
DisplayPort

Image similar



Power Supply
9 ... 45VDC

CAN

2x GBit LAN

USB 3.1

HDMI

AI Vehicle Computer

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 slot for storage expansion
Ethernet, USB, Passive or Active CAN
LTE, GNSS & WiFi options
Aluminum & Stainless steel housing
Protection class IP65

Industries / Applications

Automated Guided Vehicles (AGV)
Automotive
Transportation
Robotics
Agriculture
Construction Vehicles



	Order Code	IPC/RSA2NH20-tbd1 ¹	IPC/RSA2NH20-tbd2 ¹
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	1.33 TFLOPs
Memory / Storage			
Data Cache Size		2MB	2MB
128-bit LPDDR4 RAM soldered on board		4GB	4GB
eMMC 5.1 Flash Storage on board		16GB	16GB
M.2 2280 slot for SSD storage up to 2TB ²		1	1
microSD card socket ²		1	1
Features			
Inertial measurement unit (IMU) STMicroelectronics ISM330DHCXTR		•	•
Real time clock (RTC) with battery backup Renata CR2477N (950mAh)		•	•
Hardware Watchdog & Temperature supervisor		•	•
Communication Interfaces			
Graphic interface behind the service cover		DisplayPort 1.4	DisplayPort 1.4
Internal USB version 2.0 OTG behind the service cover	(micro USB Type AB)	1	1
USB version 2.0 behind the service cover	(Type A)	2	2
Graphic interface		HDMI 2.0	HDMI 2.0
USB version 3.1	(Type A)	1	1
USB version 2.0 ¹	(Type A)	optional	optional
Ethernet 10/100/1000Mbit (1x native, 1x I210-IT)	(M12 female, x-coded)	2	2
Active/passive-CAN ESD protected, isolated	(M12 female, a-coded)	1	1
Serial RS232 ²		2	2
Mini PCIe socket ²		2	2
I2C bus ²		1	1
Buzzer		1	1
MIPI CSI-2 / GMSL2 / FPDLinkIII Camera interface ¹		on request	on request
Wireless Connectivity			
Cellular Module (LTE/UMTS/GSM) with GNSS positioning functionality Sierra Wireless MC7455 - M2M only! (Dual nano SIM)		none	3x SMA
Wireless LAN IEEE 802.11a/b/g/n/ac dual-band 2x2 MIMO & Bluetooth 4.1 SparkLAN WPEB-263ACNI(BT)		none	2x RP-SMA
High precision GNSS module ¹ u-blox ZED-F9P module		optional	optional
Technical Data			
Dimensions [mm] (housing, excl. mounting)		w182 x h55 x d127	w182 x h55 x d127
Dimensions [mm] (housing, incl. mounting)		w218 x h55 x d127	w218 x h55 x d127
Net weight [gram]		~ 1400	~ 1500
Non isolated input voltage, with ignition controller, reverse polarity protected	(M12 male, a-coded)	9... 45VDC	9... 45VDC
Current consumption typ. in mA @ 24V without Add-Ins, idle		~ 400	~ 400
Power consumption typ. in Watt @ 24V without Add-Ins, idle		~ 10	~ 10
Environmental Conditions			
Operating temperature ³		-25°C ... +70°C	-25°C ... +70°C
Storage temperature		-25°C ... +85°C	-25°C ... +85°C
Ingress protection standard according to EN60529		IP65	IP65
Conformal coating ⁴		on request	on request
Shock (designed to meet)		EN60068-2-27	EN60068-2-27
Vibration (designed to meet)		EN60068-2-64	EN60068-2-64
EMI-Conformity (designed to meet)		EN55032 / EN55035	EN55032 / EN55035
Safety (designed to meet)		EN62368-1	EN62368-1
Radio and Telecommunication (designed to meet)		RED	RED
MTBF @ 25°C ambient excluding battery		tbd	tbd

¹ Please contact factory for minimum order quantities

² Internal connector

³ Depending on installation situation and interface connection. Please see user documentation

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

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Version 0.1 | February 2021

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industrial computing

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