AI Vehicle Computer
COMPACT AI Vehicle Series
Intelligent Machine Learning Unit with NVIDIA Jetson TX2

AI Vehicle Computer

GNSS / Wi-Fi / BT
optional LTE

Dual nanoSIM
CFast
uSD
DisplayPort

PWR   CAN   USB 3.0 / USB 3.0   ACT LAN 2 / ACT LAN 1   R / B   LINK

DC Supply
9 … 45VDC

2x CAN

2x USB 3.0

2x LAN
M12 x-coded

IPC/COMPACT A2 - RS

This fanless RS COMPACT-A2 generation is based on the NVIDIA Jetson TX2(i) 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**
- **No moving parts / passive cooling**
- **Product lifecycle management**
- **Long term availability with fixed BOM**

NVIDIA. Linux for Tegra (L4T)

Product Highlights

Maintenance free
No moving parts / passive cooling
ARM CPU core
Hardware watchdog
Temperature supervision
ESD- protection on all interfaces
Long term availability (fixed BOM)
Shock and vibration resistant

Product Features

256-core NVIDIA Pascal™ GPU
Dual-Core NVIDIA Denver 2 64-Bit CPU
Quad-Core ARM® Cortex®-A57 MPCore
8GB 128-bit LPDDR4 RAM soldered on board
Socket for CFast
Ethernet, USB, Passive or Active CAN
Optional 4G LTE connectivity
Aluminum & Stainless steel housing
Protection class IP40

Markets / Applications

Automated Guided Vehicles (AGV)
Transportation
Cleantech

CE

AI Vehicle Computer

	Order Code	IPC/RSA2I20-A103S[1]	IPC/RSA2I20-B103S[1]
Processor module / Performance			
NVIDIA Jetson TX2 | 256-core NVIDIA Pascal™ GPU		•	•
NVIDIA Jetson TX2i | 256-core NVIDIA Pascal™ GPU		optional	optional
NVIDIA Jetson TX2 4GB | 256-core NVIDIA Pascal™ GPU		on request	on request
Dual-Core NVIDIA Denver 2 64-Bit CPU and Quad-Core ARM® Cortex®-A57 MPCore		•	•
AI Performance		1.3 TOPs	1.3 TOPs
Memory / Storage			
Data Cache Size		2MB	2MB
4ch x 32-bit LPDDR4 RAM soldered on board		8GB	8GB
eMMC 5.1 Flash Storage on board		32GB	32GB
microSD Card socket [2]		1	1
CFast socket with retention frame [2]		1	1
Features			
Inertial measurement unit (IMU) STMicroelectronics ISM330DLC		•	•
Real time clock (RTC) with battery backup Renata CR2450N (540mAh)		•	•
Real time clock (RTC) with Goldcap backup (48h)		optional	optional
Hardware Watchdog & Temperature supervisor		•	•
Intelligent power management		•	•
Communication Interfaces			
Graphic interface		DisplayPort 1.2	DisplayPort 1.2
USB version 3.0	(Type A)	2	2
Internal USB version 2.0 OTG behind the cover	(micro USB Type AB)	1	1
Ethernet 10/100/1000Mbit (1x native, 1x I210-IT)	(M12 female x-coded)	2	2
Active/passive-CAN ESD protected, isolated	(1x DSUB9)	2	2
RS232 / RS422/485 ESD protected	(DSUB9)	optional	optional
Mini PCIe socket [2]		1	1
I2C bus [2]		•	•
Buzzer		•	•
MIPI CSI-2 Camera Interface [2]		•	•
Wireless Connectivity			
Cellular Module (LTE/UMTS/GSM) with GNSS positioning functionality Sierra Wireless MC7455 - M2M only!	(3x SMA)	optional	•
Dual SIM Support (nanoSIM to mPCIe slot [2])		•	•
Wireless LAN IEEE 802.11a/b/g/n/ac dual-band 2x2 MIMO & Bluetooth 4.1	(2x RP-SMA)	•	•
Technical Data			
Dimensions w174 x h52 x d127 mm (housing without mounting bracket)		•	•
Net weight in gram		~950	~950
Non isolated input voltage, with Ignition controller, reverse polarity protected	(M12 4P 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 ... +80°C	−25°C ... +80°C
Extended operating temperature −40°C ... +70°C		with TX2i	with TX2i
Extended storage temperature −40°C ... +85°C		with TX2i	with TX2i
Protection standard		IP40	IP40
UN/ECE R10 (E-mark) certification		on request	on request
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
EMC/EMI-Conformity		EN55032 / EN55035	EN55032 / EN55035
Safety (designed to meet)		EN62368-1	EN62368-1
Radio and Telecommunication (designed to meet)		RED	RED
MTBF @ 25°C ambient according to Telcordia SR-332, Environment GB, excluding battery		~700 000h	~490 000h

[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(i) Module, connectors and wireless devices)

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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