AI Vehicle Computer

COMPACT AI Vehicle Series

Intelligent Machine Learning Unit with NVIDIA Jetson TX2

LTE / GNSS / Wi-Fi / BT

Dual nanoSIM
CFast
uSD
DisplayPort

2x LAN
M12 x-coded

image similar

DC Supply
9 … 45VDC

2x CAN

2x USB

4x PoE
M12 x-coded

IPC/COMPACT A2 - RM

This fanless RM COMPACT-A2 generation is based on the NVIDIA Jetson TX2 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**
- **6 LAN Interfaces w/ individual NIC's**
- **Power over Ethernet (PoE+), 48VDC out**
- **Long term availability with fixed BOM**

NVIDIA. Linux for Tegra (L4T)

Product Highlights

Maintenance free
Goldcap instead of battery backup
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 Vehicle (AGV)
Transportation
Construction Vehicles

CE

Your partner for reliable embedded computer and display solutions.

	Order Code	IPC/RMA2I20-A203S[1]	IPC/RMA2I20-B203S[1]
Processor module / Performance			
NVIDIA Jetson TX2 | 256-core NVIDIA Pascal™ GPU		•	•
NVIDIA Jetson TX2 4GB | 256-core NVIDIA Pascal™ GPU		optional	optional
NVIDIA Jetson TX2i | 256-core NVIDIA Pascal™ GPU		optional	optional
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 CR2477N (950mAh)		•	•
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
Power over Ethernet - IEEE802.3at 10/100/1000Mbit PSE - Power sourcing equipment, producing 48VDC out	(M12 female x-coded / RJ45)	4x M12 (total max power: 39W)	4x RJ45 (total max power: 39W)
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)	•	•
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 h82 x d127 mm (housing without mounting bracket)		•	•
Net weight in gram		~1100	~1100
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		~625	~625
Power consumption typ. in Watt @ 24V without Add-Ins, idle		~15	~15
Environmental Conditions			
Operating temperature[3]		−25°C ... +65°C	−25°C ... +65°C
Storage temperature		−25°C ... +80°C	−25°C ... +80°C
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
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		~390 000h	~390 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)

syslogic
industrial computing