AI Embedded Box PCs

COMPACT AI Rugged Series

Computer Vision Edge Unit with NVIDIA Jetson Xavier 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

RPC/COMPACT A3N

This fanless COMPACT A3N generation is based on the NVIDIA Jetson Xavier 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

384-core NVIDIA Volta™ GPU
with 48 Tensor Cores
6-Core ARM v8.2 64-bit NVIDIA Carmel CPU
8GB or 16 GB 128-bit LPDDR4x RAM
M.2 NVMe slot for storage expansion up to 2TB
USB 3.1 and HDMI 2.0 ports with dust covers
Ethernet, active / passive CAN
Optional LTE & WiFi extensions
Aluminum housing

Markets / Applications

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

CE

Your partner for reliable embedded computer solutions.

		Order Code	RPC/RSA3NI19-A102S [1,5]	RPC/RSA3NI19-B106S [1,5]
Processor module / Performance				
NVIDIA Jetson Xavier NX	384-core NVIDIA Volta™ GPU with 48 Tensor Cores 6-Core ARM v8.2 64-bit NVIDIA Carmel CPU			•	•
NVIDIA Jetson Xavier NX **(16GB RAM)**	384-core NVIDIA Volta™ GPU with 48 Tensor Cores 6-Core ARM v8.2 64-bit NVIDIA Carmel CPU			on request	on request
AI Performance (INT8)			21 TOPs	21 TOPs
Memory / Storage				
Data Cache Size			2MB	2MB
128-bit LPDDR4x RAM soldered on board			8GB	8GB
eMMC 5.1 Flash Storage on board			16GB	16GB
M.2 2280 Key M socket (for NVMe SSD) [5]			1	1
microSD Card socket [2]			1	1
Features				
Real time clock (RTC) with battery backup Renata CR2477N (950mAh)			•	•
Inertial measurement unit (IMU) [1] STMicroelectronics ISM330DHCXTR			on request	on request
Communication Interfaces				
Video output 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
Video output			HDMI 2.0	HDMI 2.0
USB version 3.1 (5 Gbit/s)	(Type A)		1	1
Ethernet 10/100/1000 BASE-T (1x native, 1x I210-IT)	(M12 female, x-coded)		2	2
CAN 2.0A / CAN 2.0B (active/passive), CAN FD supported, isolated	(M12 female, a-coded)		1	1
Mini PCIe socket [2, used for extensions depending on configuration]			2	2
Serial RS232 [1]	(M12 female, a-coded)		on request	on request
USB version 2.0 [1]	(M12 female, a-coded)		on request	on request
MIPI CSI-2 / GMSL2 / FPDLinkIII Camera interface [1]			on request	on request
Wireless Connectivity				
Cellular 4G Module (LTE/UMTS/GSM) with built-in GNSS Telit LE910C4-WWX [6] (Dual nano SIM support)			none	3x SMA
Wireless LAN IEEE 802.11a/b/g/n/ac dual-band 2x2 MIMO & Bluetooth 5.0 Emwicon WMX6218 [6]			none	2x RP-SMA
High Accuracy GNSS Positioning Module w/ RTK & optional heading support [1] u-blox ZED F9R / F9P			on request	on request
Technical Data				
Dimensions [mm] (housing, incl. mounting)			w245 x h66 x d165	w245 x h66 x d165
Net weight [gram]			~2300	~2350
Non isolated Input voltage, with Ignition controller, reverse polarity protected	(M12 male, a-coded)		9 ... 45VDC	9 ... 45VDC
Power consumption typ. in Watt @ 24V without Add-Ins, idle			~8.5	~8.5
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			IP67	IP67
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-Conformity			EN55032 / EN55035	EN55032 / EN55035
Safety (designed to meet)			EN62368-1	EN62368-1
Radio and Telecommunication (designed to meet)			n/a	RED
estimated MTBF @ 25°C ambient according to Telcordia SR-332, Environment GB, excluding battery and SSD			~550 000h	~385 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. Xavier 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:
RPC/RSA3NI19-[A/B]102S-01 = 120GB | RPC/RSA3NI19-[A/B]10xS-02 = 240GB | RPC/RSA3NI19-[A/B]10xS-05 = 480GB | RPC/RSA3NI19-[A/B]10xS-10 = 960GB

[6] 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 (previous products: RPC/RSA3NI19-B102S)

syslogic
industrial computing