



## IPC/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 railway AI applications and guarantees long term availability.

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

 **NVIDIA.** Linux for Tegra (L4T)

### Product Highlights

Maintenance free  
Shock and vibration resistant  
LTE, GNSS and Wi-Fi connectivity options  
No moving parts / passively cooled  
Goldcap backup for RTC

### Product Features

384-core NVIDIA Volta™ GPU with 48 Tensor Cores  
6-Core ARM v8.2 64-bit NVIDIA Carmel CPU  
8GB 128-bit LPDDR4x RAM soldered on board  
M.2 NVMe slot for storage expansion up to 2TB  
Ethernet, USB, Passive or Active CAN  
Optional LTE & WiFi extensions  
Aluminum & Stainless steel housing  
Protection class IP40

### Markets / Applications

Railway (rolling stock)

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		•
AI Performance (INT8)		21 TOPs
Memory / Storage		
Data L3 Cache Size		2MB
256-Bit LPDDR4x RAM soldered on board		8GB
eMMC 5.1 Flash Storage on board		16GB
M.2 2280 slot for SSD storage up to 2TB <sup>2</sup>		1
microSD card socket <sup>2</sup>		1
Features		
Real time clock (RTC) with goldcap backup (holds charge for 48h)		•
Hardware Watchdog & Temperature supervisor		•
Inertial measurement unit (IMU) STMicroelectronics ISM330DHCXTR		•
Intelligent power management (Power Ignition Controller)		•
Communication Interfaces		
Graphic interface <small>behind the service cover</small>		DisplayPort 1.4
Internal USB version 2.0 OTG <small>behind the service cover</small>	(micro USB Type AB )	1
USB version 2.0 <small>behind the service cover</small>	(Type A)	2
Graphic interface		HDMI 2.0
USB version 3.1	(Type A)	1
USB version 2.0 <sup>1</sup>	(Type A)	optional
Ethernet 10/100/1000Mbit (1x native, 1x I210-IT)	(M12 female, x-coded)	2
Active/passive-CAN ESD protected, isolated	(M12 female, a-coded)	1
Serial RS232 <sup>2</sup>		2
Mini PCIe socket <sup>2</sup>		2
I2C bus <sup>2</sup>		1
Buzzer		1
MIPI CSI-2 / GMSL2 / FPDLinkIII Camera interface <sup>1</sup>		on request
Wireless Connectivity		
Cellular Module (LTE/UMTS/GSM) with GNSS positioning functionality Sierra Wireless MC7455 - M2M only! (Dual Nano SIM)	(3x SMA)	optional
Wireless LAN IEEE 802.11a/b/g/n/ac dual-band 2x2 MIMO & Bluetooth 4.1 SparkLAN WPEB-263ACNI(BT)	(2x RP-SMA)	optional
High precision GNSS module <sup>1</sup> u-blox ZED-F9P module		optional
Technical Data		
Dimensions [mm] (housing, excl. mounting plate)		w260 x h50 x d138
Dimensions [mm] (housing, incl. mounting plate)		w297 x h50 x d138
Net weight [gram]		~2300
Isolated input voltage and reverse polarity protection	(M12 5P male a-coded)	16.8 ... 137.5 VDC
Interruption of voltage supply time: EN50155 Class S2		>10ms
Environmental Conditions		
Operating temperature <sup>3</sup>		-25°C ... +65°C
Storage temperature		-25°C ... +80°C
Ingress protection standard according to EN60529		IP40
Conformal coating <sup>4</sup>		PCX
Road vehicles (UN/ECE R10 "E-mark")		on request
Shock		EN60068-2-27 / EN61373
Vibration		EN60068-2-64 / EN61373
EMI-Conformity		EN-50121-3-2
Safety (designed to meet)		EN62368-1
Fire protection		EN45545-2 HL3
Radio and Telecommunication		designed to meet RED
MTBF @ 25°C ambient <small>according to Telcordia SR-332, Environment GB</small>		tbd

<sup>1</sup> Please contact factory for minimum order quantities

<sup>2</sup> Internal connector

<sup>3</sup> Depending on installation situation and interface connection. Please see user documentation.

<sup>4</sup> On all possible components (excl. NVIDIA Xavier 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.