ATC 3530

NVIDIA® Jetson Xavier™ NX Solution

Accelerated AI Edge Computing

ATC 3530-IP7-4M

ATC 3530-IP7-4C

Main Features

- AI Edge In-vehicle computer
- 4-Ch MIPI SerDes, 1080p60/4Kp30 over 15m cable (ATC 3530-IP7-4M)
- Built-in NVIDIA® Jetson Xavier™ NX SOM, up to 21 TOPS compute
- 4-port GbE PoE+ for IP CAM/LiDAR sensors (ATC 3530-IP7-4C)
- HEVC/H.265 hardware CODEC, 32 x 1080p30 compute power
- Wide range operating temperature of -30~70°C
- The rugged, fanless design with IP67 rating
- Ultra-speed PCIe 3.0 x4 NVMe SSD for data integry
- NEXCOM Aided Linux (NAL) OS w/ JetPack 4.6/5.1.3 integrated
- Expansible for LTE/5G NR & Wi-Fi 5/6
- 9~36V DC-in with ignition control & OCP/OVP
- CE/FCC, UKCA, Emark certified

Product Overview

AI has become an essential component of automated vehicle technologies. With built-in high performance/watt NVIDIA® Jetson Xavier™ NX SOM, ATC 3530 can deliver up to 21 TOPS for running modern AI workloads while consuming 15W low power. This is suitable for AI power IoT gateway, OHV AI Edge recognition, AI traffic sign control, and factory automation/machine vision, enhancing productivity and lowering TCO.

ATC 3530 is a fanless, compact, and IP67 certified computer. It features 9~36VDC with IGN control, 4 PoE+ for IP CAM deployment, or 4 MIPI CSI-2 MIPI with PoC for 15m long reach to 4Kp30/1080p60. Moreover, ATC 3530 is designed with diverse peripheral ports, like USB 3.2, isolation CANBus, RS232, Console, DI/DO, OTG, and HDMI for connecting to a wide range of devices/sensors.

With the 5G NR, Wi-Fi 5/6 modules installed, ATC 3530 can enhance AI inference through Cloud Service Provider (CSP). As for harsh environment applications, ATC 3530 can operate at a wide range temperature of -30~70°C and meet the MIL-STD-810G military standard for vibration and shock resistance. In terms of regulation, ATC 3530 is compliant with CE/FCC Class A, UKCA and Emark (E13).

Specifications

NVIDIA® Jetson Xavier™ NX SOM

- 3 x NVIDIA® 64-bit Carmel (Dual-Core) processor, 1900 MHz
- 384-Core Volta & 48-core Tensor integrated, 1100MHz
- 6 TFOPS (FP16), 21 TOPS (INT8) compute
- OpenGL 4.6, OpenGL ES 3.2, and Vulkan 1.1
- 260-Pin SO-DIMM form facor compatible with NANO/TX2 NX
- NVIDIA® JetPack 4.6

Memory

- 8GB/16GB 128-bit LPDDR4, 1600MHz

Storage

- 16GB eMMC 5.1 flash storage, 200 MHz (HS400)
- 1 x Accessible microSD (SDXC, UHS-I)
- 1 x M.2 2280/3080 Key M (PCIe 4.0 x4) NVMe SSD

Expansion

- 1 x Full size mPCIe socket (PCIe 3.0 + USB 2.0)
- 1 x M.2 3042/3052 Key B socket (USB 3.0) with 2 x micro SIM slots

Display

- 1 x HDMI 2.0A/B, up to 3840 x 2160@60Hz

G-Sensor

- 3D accelerometer and 3D gyroscope, ST LSM6DSLTR

GbE

- 1-Port GbE, X-coded (ATC 3530-IP7-4C)
- 2-Port GbE, X-coded (ATC 3530-IP7-4M)
- 9Kbyte Jumbo frame, PTP (IEEE 1588) support
- Controller: Intel® I210-IT

PoE (only for ATC 3530-IP7-4C)

- 4-Port Gbps, X-coded
- IEEE 802.3af/at compliant
- 30W (4-port) power budget in total
- PoE on/off and power watt monitoring
- The cap is pre-installed

MIPI CSI-2 SerDes (only for ATC 3530-IP7-4M)

- Up to 4 x individual channel (1080p60/720p30 resolution)
- Thine SerDes solution (V-by-One® HS)
- Integrated with 3rd party MIPI SerDes camera (IP67 rating)
  - 1080p60 CAM: CAM1-MT1080-IP7-15m (P/N: 10AT0108001X0)
  - 720p30 CAM: CAM1-MT720-IP7-15m (P/N: 10AT0072001X0)

USB

- 2 x USB 3.0 (USB 3.2 Gen1), type A
  - 5V@900mA each
  - up to 5Gbit/s link speed & compliance with USB 2.0 (LS/FS/HS link speed)
- 1 x OTG micro USB, 2 x USB2.0 wafer-type (reserved)

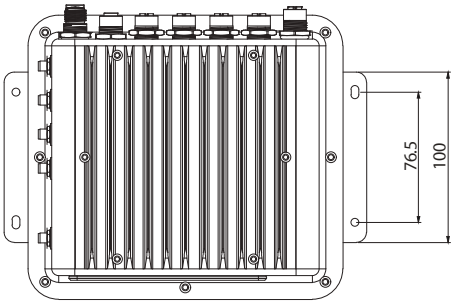
Serial Port

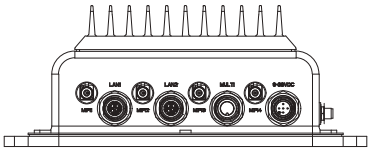
- 1 x RS232 (Tx, Rx, CTS, RTS)
- 1 x RS232 (Tx, Rx)
- 1 x Console port (Tx, Rx)
- RS232 working voltage, ±9V, baud rate up to 115.2kb/s

DI/DO (reserved)

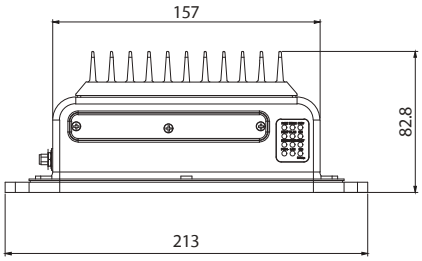
- 4-Bit input
  - Source: 9~36VDC (12V@0.6mA/24V@1.2mA)
  - External: 0~33VDC pull-high, high-level, 3.3 - 33VDC; low-level, 0-2 VDC

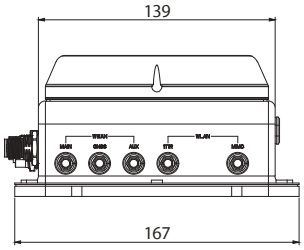
Dimension Drawing

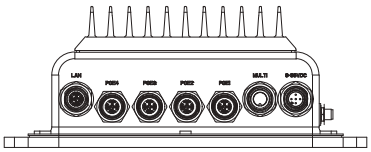




ATC 3530-IP7-4M







ATC 3530-IP7-4C

- 4-Bit output
  - Source: 9~36VDC (nominal 35mA@24V)
  - External: 5~27VDC pull-high, sink current w/ 220mA for each bit, 500mA max (@25C)
- Source or external can be selected by software (default: source type)

CAN Bus
- 1 x CAN 2.0A/2.0B
- IEC 61000-4-2 Electrostatic Discharge (ESD): ±8KV/15KV (contact/air)
- 2.5KV isolated

GPS
- U-blox NEO-M8N GNSS module for GPS/Gloness/QZSS/Galileo/Beidou
- Optional DR (dead reckoning) function, NEO-M8U/M8L

Power Supply
- Nominal voltage: 9~36V
- Cranking voltage: 6V~9V (less than 20 sec)
- OCP & UVP (shut down once exceeding 37V)
- Ignition on/off control & programmable on/off delay timer
- Opional for remote power on/off control

I/O Ports, Front-Plate
- 12 x LED indicators
- Reset button, 1 x microSD slot, 1 x OTG
- 2 x Micro SIM slots, 1 x HDMI, 2 x USB 3.0

I/O Ports, Rear-Plate
- 9~36VDC-in, S-coded
- 4 x Fakra z-code & 2 x GbE, X-coded (ATC 3530-IP7-4M)
- 4 x GbE PoE & 1 x GbE, X-coded (ATC 3530-IP7-4C)
- M12 multi-port (2 x RS232 & 1 x console, 1 x CAN)

I/O Ports, Side-Plate
- 2 x antenna holes for Wi-Fi 5/6 modules (PR-SMA ant.)
- 2 x antenna holes for LTE/5G module (SMA ant.)
- 1 x antenna hole for GNSS (RP-SMA ant.)

Dimensions & Weight
- 213mm x 167mm x 82.8mm (w/ mount bracket)
- 2.4kg

Environment
- Operating temperatures: -30°C~70°C (70°C: NVIDIA® Jetson Xavier™ NX@10W, w/o PoE; 60°C: NVIDIA® Jetson Xavier™ NX@15W w/ 30W PoE)
- Storage temperatures: -40°C~85°C
- Relative humidity: 10%~95% (non-condensing)

Vibration & Shock
- Vibraion in operating
  - MIL-STD-810G, 514.6C, Procedure 3, Category 4
  - IEC 60068-2-64: 2.0g@5~500 Hz
  - MIL-STD-810G, 514.6E, Procedure 1, Category 24, 7.7g approx.
- Shock
  - Operating: MIL-STD-810G, Method 516.6, Procedure I, functional shock=20g
  - Non-operating: MIL-STD-810G, Method 516.6, Procedure V, crash hazard shock test=75g

Certifications
- CE approval, FCC Class A, UKCA, E13 certified

Operating System
- NEXCOM Aided Linux (NAL)
  - NV Jetpack 4.6/5.1.3 package
  - MIPI SerDes CAM Driver
  - NEXCOM custom functions (GNSS, 5GNR, 6-axis sensor, MCU control)
  - V4L2
  - Ubuntu 18.02/20.04@Kernel 4.9.140/5.10

External Cable
- Power extension cable, 20cm
- M12 multi-port adapter cable, 20cm

Ordering Information

- **ATC 3530-IP7-4C (P/N: 10AT0353001X0)**
  IP67 rating AI edge compute, NVIDIA® Jetson Xavier™ NX SOM, 8GB LPDDR4, 16GB eMMC, 4 x GbE PoE, 1 x GbE, 2 x RS232, 2 x USB 3.0
- **ATC 3530-IP7-4M (P/N: 10AT0353000X0)**
  IP67 rating AI edge compute, NVIDIA® Jetson Xavier™ NX SOM, 8GB LPDDR4, 16GB eMMC, 4 x MIPI VBO, 2 x GbE, 2 x RS232, 2 x USB 3.0
- **ATC 3530-IP7-4C-16 (P/N: 10AT0353003X0)**
  IP67 rating AI edge compute, NVIDIA® Jetson Xavier™ NX SOM, 16GB LPDDR4, 16GB eMMC, 4 x GbE PoE, 1 x GbE, 2 x RS232, 2 x USB 3.0
- **ATC 3530-IP7-4M-16 (P/N: 10AT0353002X0)**
  IP67 rating AI edge compute, NVIDIA® Jetson Xavier™ NX SOM, 16GB LPDDR4, 16GB eMMC, 4 x MIPI VBO, 2 x GbE, 2 x RS232, 2 x USB 3.0

We reserve the right to change specifications and product descriptions at any time without prior notice.