



Main Features

- Built-in NVIDIA® Jetson AGX Orin™ SOM, up to 200/275 TOPS (INT8) performance
- Designed to be IP67 rated, rugged, and compact
- 8 MIPI/GMSL2 & 2.5GbE (X-coded) for MIPI CAM/IP CAM/LiDAR sensors
- HEVC/H.265 hardware DECODE, supporting up to 7 x 4K30
- Wide range operating temperature of -25°C~70°C
- Ultra-speed PCIe 4.0 x4 NVMe SSD for data integrity
- Expansive for GNSS, LTE/5G NR & Wi-Fi 5/6
- 9~36VDC & 24V rail combined, ignition control & OCP/OVP
- NEXCOM Acceleration Linux (NAL) integrated w/ JetPack 6.0
- Military standard of MIL-STD-810H for anti-vibration/shock
- CE/FCC, UKCA, E-mark, EN50155 (EN55011, EN50121-3-2, EN61373, OT3) certified

Product Overview

AI has become an essential component of automated vehicle technologies. With its built-in high performance NVIDIA® Jetson AGX™ Orin SOM, the ATC 3750-IP7-8M can deliver up to 200/275 TOPS workload on Artificial Intelligence (AI) processing and inference, supporting applications such as ADAS in Transportation/Construction, ANPR, AMR, Machine Learning (ML), ITS, railway safety assurance, and factory automation.

Thanks to NEXCOM excellent thermal solutions, ATC 3750-IP7-8M can working through its defined TDP (15W~60W) at the harsh environments without fan kit to achieve 200/275 TOPS workload performance.

The ATC 3750-IP7-8M is a IP67 rated, rugged, compact-size in-vehicle/rail AI powered computer that features 9~36VDC/24VDC rail with IGN control, 8-ch MIPI/GMSL2 for accessing MIPI CAM/LiDAR sensors, and rich peripheral ports: GbE/2.5GbE, USB3.2, isolation CANBus, RS232, Console, DI/DO, OTG, and HDMI. With the installation of 5G NR, Wi-Fi 5/6 modules, the ATC 3750-IP7-8M can collaborate with CPS for AI model re-training, making it suitable for deployment in sophisticated applications such as ADAS/ANPR/Aided ITS/Construction, etc. In harsh environments, the ATC 3750-IP7-8M can operate at a wide temperature range of -25~70°C and meet the MIL-STD-810H military standard for anti-vibration and shock. For regulation, the ATC 3750-IP7-8M is certified by CE/FCC Class A, UKCA, E-mark, and EN50155.

Specifications

NVIDIA® Jetson AGX™ Orin SOM

- 32GB 256-bit LPDDR5, 204.8 GB/s
 - 8 x cores | 2 Cortex-A78AE CPU clusters (4 cores/cluster), 2.2 GHz
 - 1792 CUDA® cores, 56 Tensor cores, 108 Sparse TOPS, 939 MHz
 - 200 INT8 Sparse TOPS
 - 2 x NVDLA v2.0 engines: 1.4 GHz | 46 TOPS each (Sparse INT8)
- 64 GB 256-bit LPDDR5, 204.8 GB/s
 - 12 x cores | 3 Cortex-A78AE CPU clusters (4 cores/cluster), 2.2 GHz
 - 2048 CUDA® cores, 64 Tensor cores, 170 Sparse TOPS, 1.3 GHz
 - 275 INT8 Sparse TOPS
 - 2 x NVDLA v2.0 engines: 1.6 GHz | 52.5 TOPS each (Sparse INT8)
- Video Encode: 2 x 4K60 | 4 x 4K30 | 8 x 1080p60 (H.265)
- Video Decode: 1 x 8K30 | 3 x 4K60 | 6 x 4K30 | 12 x 1080p60 (H.265)
- OpenGL 4.6+, OpenGL ES 3.2, and Vulkan 1.2+, CUDA 10.2+
- NVIDIA® JetPack 6.0

Storage

- 64GB eMMC 5.1 flash storage, 200 MHz (HS400 or HS533)
- 1 x Accessible SD card (SDXC-I/ UHS-I, SD3.0)
- 1 x M.2 2280 Key M (PCIe4.0 x4), NVMe SSD

Expansion

- 1 x Full size mPCIe socket (PCIe 4.0, USB 2.0)
- 1 x M.2 3042/3052 Key B socket (USB 3.2/2.0), 2 x Nano SIM slots
- 1 x M.2 3030 Key E socket (PCIe4.0, USB2.0) for Wi-Fi 5/6

Display

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

G-Sensor

- 3D accelerometer and 3D gyroscope, ST LSM6DSLTR

MIPI/GMSL2

- 8 MIPI SerDes/GMSL2 ports
- Controller: Maxim MAX96712
- Camera supported for e-con systems:
 - STURDeCAM21
 - STURDeCAM25
 - STURDeCAM31
- PoC (Power over Cable)
- External cable length: 15 meters
- Connector: FAKRA Z-coded

Multi-Gigabit

- 1-port GbE, 1-port 2.5GbE
- 9Kbyte Jumbo frame
- IEEE1588 supported
- LAN controller: Intel I226-I
- X-coded connector

USB

- 2 x USB 3.2 Gen 2:
 - Host Type-A connector
 - 5V@900mA each
 - Up to 10Gbit/s link speed & compliance with USB 2.0 (LS/FS/HS link speed)
- 2 x USB2.0
- 1 x OTG, micro USB

Serial Port

- 1 x RS232 (Tx, Rx, RTS, CTS, DTR, DSR)/RS422/RS485
- 1 x RS232 (Tx, Rx, RTS, CTS)
- 1 x Console (Tx, Rx)
- RS232 working voltage, +- 9V, baud rate up to 115.2kb/s

- ATC 3750-IP7-8M (P/N: 10AT0375004X0)**
 NVIDIA® Jetson AGX™ Orin SOM, 32GB LPDDR5, 64GB eMMC, GbE, 2.5GbE, 2/2 x USB 3.2/2.0, 1 x RS232/422/485, 1 x RS232, OTG/Console, 9~36VDC/24VDC Rail
- ATC 3750-IP7-8M-64 (P/N: 10AT0375005X0)**
 NVIDIA® Jetson AGX™ Orin SOM, 64GB LPDDR5, 64GB eMMC, GbE, 2.5GbE, 2/2 x USB 3.2/2.0, 1 x RS232/422/485, 1 x RS232, OTG/Console, 9~36VDC/24VDC Rail