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ATC-JTS64

SYSTEM

NVIDIA Jetson AGX Orin System with VITA 93 QMC Upgradable I/O

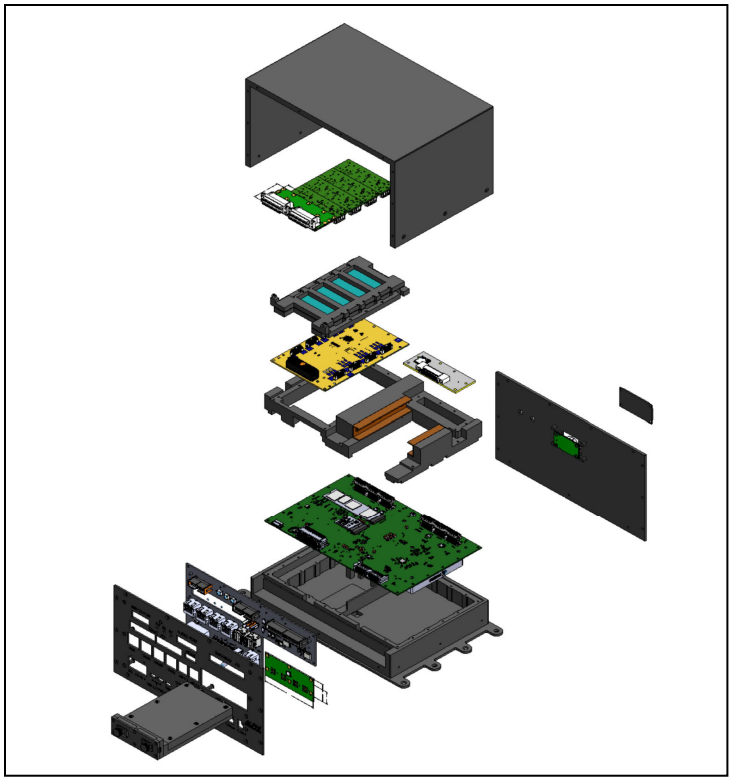
Features

- VITA 93 QMC Embedded AI Platform
- NVIDIA Jetson AGX Orin™ Industrial — Up to 275 TOPS; 2048-Core Ampere GPU, 12 x ARM Cortex-A78AE Cores
- 4× VITA 93.0 QMC Mezzanine Sites
- Dual Removable M.2 NVMe SSD Bays
- 1× 10GbE + 4× Gigabit Ethernet Ports
- Up to 8× MIPI CSI-2 Camera Inputs
- Galvanically Isolated CAN, UART, SPI and I²C
- Operating Temperature −40°C to +85°C

Block Diagram and Operational Overview

The ***ATC-JTS64*** integrates the NVIDIA® Jetson AGX Orin™ Industrial with ***four VITA 93.0 QMC expansion sites***, high-speed networking, removable NVMe storage, camera support, and isolated I/O. Its internal bridge assemblies distribute power and PCIe data between the processor, QMC modules,storage, USB, display, Ethernet, and control interfaces. A monitored 12–36 VDC input supports operation from −40°C to +85°C, while the same architecture can be configured in either an industrial enclosure or a rugged military system with mission-specific connectors.

Fully Customizable Rugged Panel Options



Applications

This is an ideal solution for:

- Autonomous Systems
- ISR and Situational Awareness
- Edge AI Inference
- Robotics, UGV, and UAS Platforms
- Mission Computers
- Machine Vision
- Sensor Fusion
- Industrial Automation

ARM Based Processor :

- NVIDIA Jetson AGX Orin up to 275 TOPS
- GPU 2048-core NVIDIA Ampere
- GPU Frequency 1.2GHz
- CPU 12-core ARM Cortex-A78AE v8.2 64-bit
- CPU Max Frequency 2.0 GHz
- Memory 64GB 256-bit LPDDR5

Storage

- MicroSD Card
- 64GB eMMC on Jetson AGX Orin™
- M.2 Key M connector supporting NVMe PCIe ×4 Lane on Mother Board (1TB Std)
- 2 Removable NVMe SSD Drive Bays

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ATC-JTS64

SYSTEM

USB
- 4× USB 3.2 Gen 1
- 2× USB Type-C 3.2

Network
- 4× 1000Base-T RJ45 with Activity LED
- 1x 10GBase-T RJ45 with Activity LED

Display
- DisplayPort 1.4 / HDMI CEC Supported

Indicator
- LED Main Power Supply

Expansion
- M.2 Key E Connector
  - PCIe ×1 Lane, USB 2.0
  - I2S, UART, Control
- PCI Express Connector (Stacking)
  - PCIe ×8 Lane for Specialty Modules
- 4 x Vita 93 QMC Modules

Camera Expansion
- High Speed Connector
  - CSI: 16 lanes (6, ×2 or 4, ×4) DPHY or CPHY
  - Camera CLK, I2C and Control

Operating Environment
- Operating temperature
  -40 ºC to +85 ºC
- Airflow requirement – 5 CFM
- Humidity – 5 to 90% (non-condensing)
- Altitude – 0 to 60,000 feet

Operating System:
- Linux(JetPack),UBUNTU,RTOS

I/O
- 2 Channels Isolated CAN Bus
- 2 Channels Isolated I2C/SPI
- 2 Channels Isolated UART
- 1 Channel Audio Codec
- 4 QMC SLOT x4 PCIe Lane

Debug PORT
- Connectors: JTAG & USB Micro B Debug
- Force Recovery/Reset Buttons

Voltage Input
- 12-36 DC Input Voltage
- MIL-STD-461, -704, and -1275 compliant power supply with isolation option

Boot Source
- Jetson AGX Orin™ 64GB eMMC Flash
- M.2 NVME on System Board
- Removable M.2 NVMe

Enclosures
- Industrial with Standard Connectors
- Rugged Military
- Optional Removeable Drive Bay(s)

Additional Features
- Monitor: Power Supply & Temperature
- Rugged I/O connector
- Real Time Clock
- Wifi / BT M.2 Key E + Antenna

Mechanical: Environmental:
- Size – 11.3”X6.75”X5.3”; Weight-6.6Kg; Power-<50W
- MTBF: >250,000 hours
- Vibration – 5G, 20-2000 Hz rand
- Shock – 20G, 11 msec, ½ sine

Ordering Information

ATC-JTS64-A-B-C-D-SSS: NVIDIA Jetson AGX Orin™ System

Field	Meaning	Values
A	Configuration	1 = Standard System (reserved for future variants)
B	Expansion I/O	1 = Up to 4× VITA 93 QMC Modules
C	Enclosure	1 = Industrial, Standard Connectors · 2 = Rugged Military, MIL-DTL-38999
D	Drive Bay Qty	0 = No Removable Drive · 1 = One Removable Drive Bay · 2 = Two Removable Drive Bays
SSS	Drive Capacity (per bay)	000 = N/A (only valid when D=0) · 256 = 256GB · 512 = 512GB · 1T0 = 1TB · 2T0 = 2TB

Example:

ATC-JTS64-1-1-1-2-512 = Standard config, QMC I/O, Industrial enclosure, **two** removable drive bays, **512GB** each

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