AI

T A U

Deeper-I

Accelerate Intelligence, Anytime, Anywhere
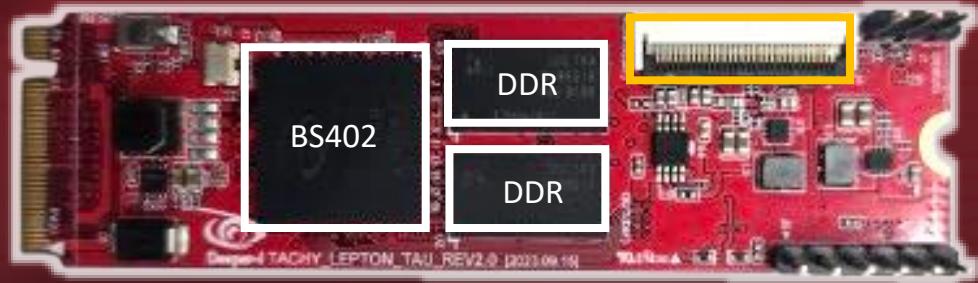
Product Introduction

TAU offers flexible expansion via the M.2 slot and is equipped with Deeper-I's proprietary Tachy-BS402 NPU SoC, which accelerates real-time deep learning inference and delivers excellent performance in IoT edge computing environments. TAU enhances data transfer speed and stability by using the X2X chip-to-chip interface.

BS402

DDR

DDR

Key Features & Strength

○ High-Performance Deep Learning Inference Acceleration
The TAU board maximizes real-time inference performance for complex deep learning models with its built-in Tachy-BS402 NPU. It delivers excellent performance in low-power environments, enabling efficient processing of deep learning models at high speed.

○ Support for Various Camera Inputs
The TAU board supports multiple camera interfaces, such as MIPI, BT.1120, and DVP, allowing seamless handling of different types of image inputs. This makes it applicable across various operational environments.

○ Scalable Modular Structure
The TAU board supports expandability between multiple modules via the X2X interface, enhancing chip-to-chip communication. This provides the advantage of maximizing data transfer speed and system scalability.
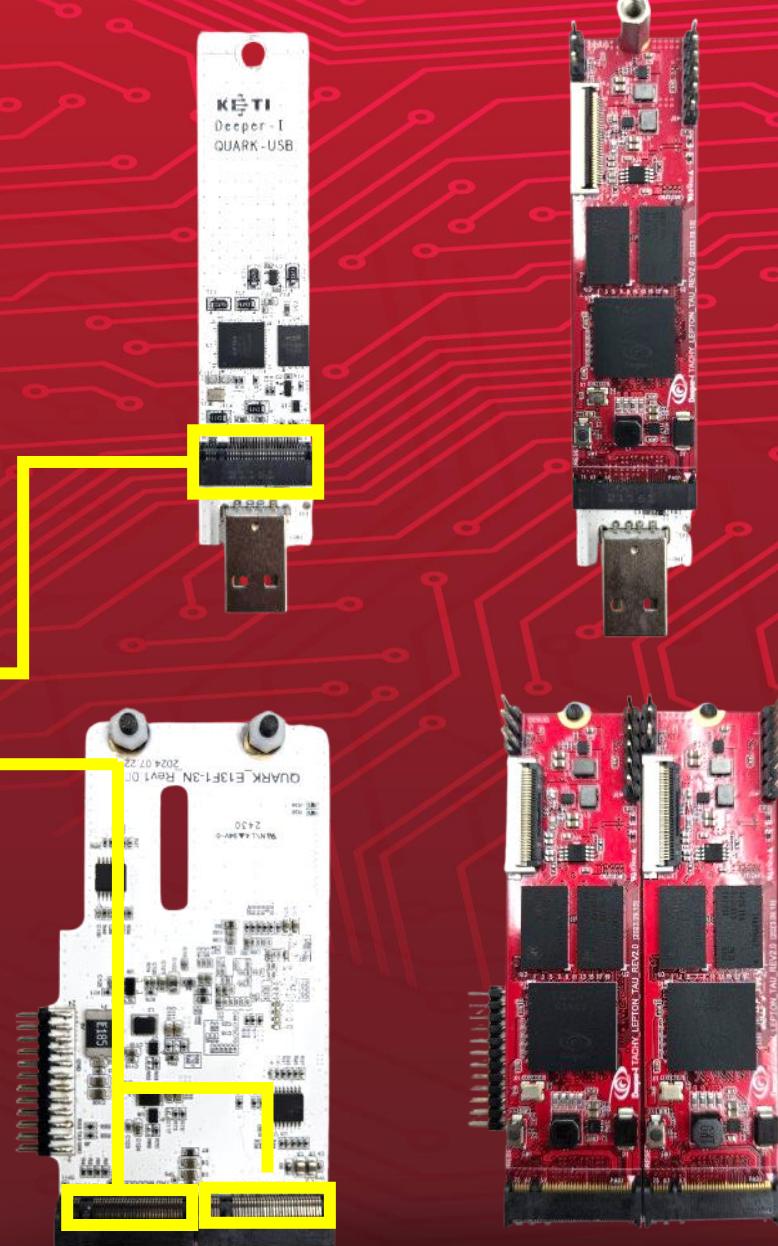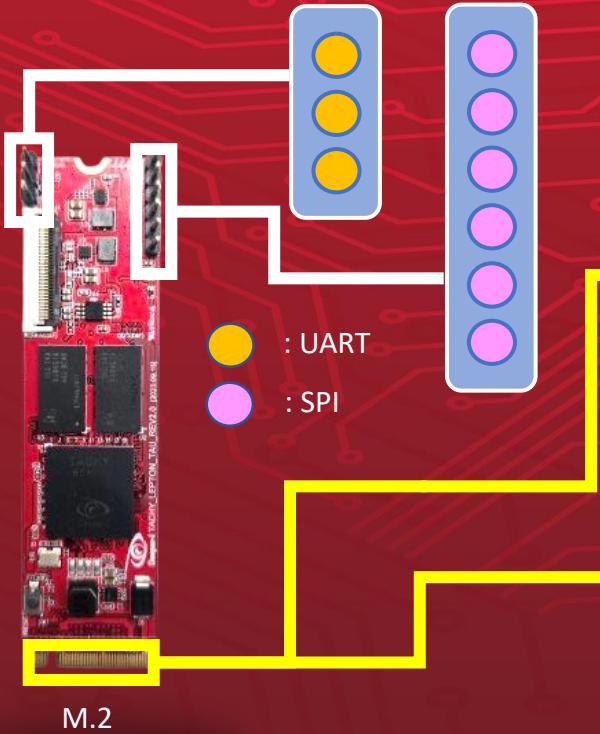
○ Low-Power Design
The TAU board operates efficiently in low-power environments, such as edge computing, due to its optimized power consumption. It is also well-suited for battery-powered systems, reducing the burden of power management.

○ High Compatibility with SBCs
The TAU board is compatible with various SBCs (Single Board Computers), including the Raspberry Pi series, Jetson, and Banana Pi, enabling easy integration. This compatibility supports a wide range of industrial and IoT applications.
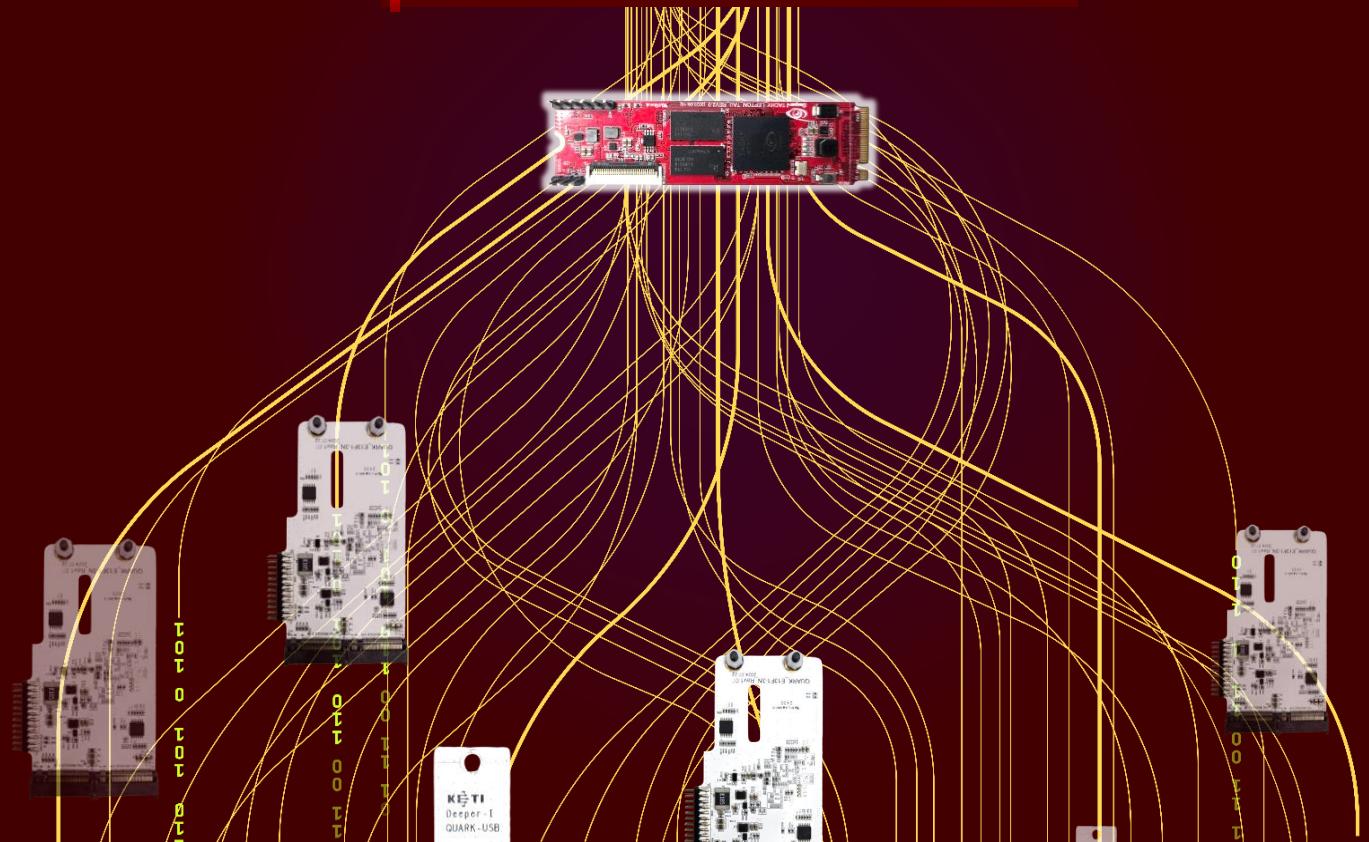
: UART

: SPI

M.2

Product Specifications

Specification Item	Details
Board Model	TAU
NPU	Tachy-BS402, 300MHz dual-core NPU, Black Swan 1.0 deep learning engine
CPU	ARM Cortex A5, 400MHz quad-core CPU
Memory	1GB DDR3 RAM
Camera Interface	MIPI Rx/Tx, BT.1120 (Parallel Bit/C), DVP
Interface Expansion	2x SPI, I2C, SDIO, PWM, UART, BT.1120, NOR Flash
Power Supply	5V DC (M.2 Key 75-Pin Pad)
Dimensions	80mm x 22mm x 11.5mm
Scalability	Supports scalability through X2X chip-to-chip communication
Board Features	Low-power design, suitable for Edge Computing environments

Applications & Use Cases

TAU

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Compact Power, Limitless Potential

Drone Autonomous Navigation

The TAU board enhances drone autonomous navigation by supporting real-time video processing and deep learning-based inference. It can receive and analyze real-time video from cameras mounted on drones through various camera input interfaces (MIPI, DVP, BT.1120).

The X2X chip-to-chip communication enables fast and reliable data transfer between various sensors and systems, and the low-power design minimizes battery consumption, allowing longer flight times.

Golf

The TAU board is applied to golf swing analysis and training systems, accurately tracking and analyzing swing movements through high-speed camera inputs and real-time data analysis.

With MIPI and DVP camera inputs, the board can analyze swings from multiple angles, while deep learning-based real-time inference quickly processes player swing data, providing customized feedback. The TAU board's low-power design maximizes battery efficiency in training equipment.

Smart Factory

The TAU board is well-suited for IoT edge computing environments, the core of smart factories. It collects and analyzes real-time data from various cameras and sensors in the factory, maximizing the efficiency of quality inspection and automated control systems.

Through X2X chip-to-chip communication, data transfer speed is increased between different devices, and its low-power design maintains energy efficiency in the smart factory while ensuring stable system operation. Deep learning-based inference enables real-time analysis of production data, improving production quality.

Innovation in edge technology creates a smarter tomorrow.

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