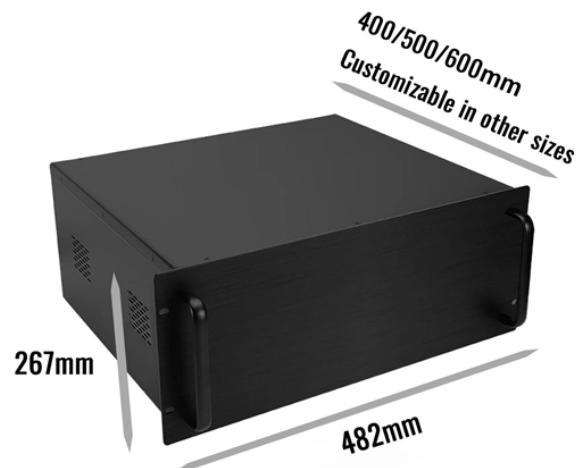


# Can high-frequency communication boards be used in AI servers



## Overview

Inside an AI server, various boards (such as motherboards, accelerator cards, and network interface cards) connect via high-speed connectors (like PCIe). These interfaces are mounted on high-frequency PCBs. Its core functions can be broken down into three critical layers: Modern AI servers. PCB Demands for AI Servers: An Ultimate Challenge of Performance and Density The typical characteristics of AI servers define their core PCB requirements: Ultra-High Layer Counts (10+ layers, even 20+): Modern AI servers integrate multiple high-performance GPUs, CPUs, vast amounts of memory, and. However, inside the AI server racks handling massive computations, a seemingly standard but critical component faces unprecedented performance challenges—the high-frequency, high-speed circuit board. Acting as the “neural network” and “power artery” linking all computing units, its performance. In order to enable precise control of via characteristics in 1.6 Tbps-class high-speed transmission PCBs that support next-generation AI data centers, the OKI Group's PCB business company OKI Circuit Technology has successfully developed High-Accuracy Simulation Technology for High-Frequency Vias. Among many types of PCB, HDI PCB has become the preferred solution for AI

servers due to their special advantages. Highleap Electronics delivers comprehensive AI Server PCB solutions engineered for the.

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The explosive growth of AI servers has directly reshaped PCB demand. Data shows that AI servers' share of PCB demand jumped from 15% in 2025 to over 25% in 2026.



This article explains the internal PCB composition of an AI server by disassembling the server hardware, so readers can gain a clearer understanding of the PCB types and their relative ...



High-frequency PCB and RF PCB solutions for aerospace, medical, and industrial applications. As Artificial Intelligence rapidly advances, the training of large models and edge ...



We provides advanced AI server PCB solutions for GPU servers and AI accelerators. 16-32L HDI boards & certified quality for high-performance computing systems.



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High-frequency, high-speed copper-clad laminates from suppliers like Shengyi Technology, Rogers, and Panasonic form the foundation for premium AI server PCBs.



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HDI PCB support high-frequency and high-speed signal transmission, thus meeting the high requirements of artificial intelligence servers for data processing speed.

## Contact Us

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