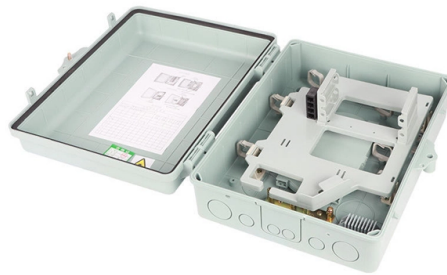


AI server operation materials



Overview

AI server PCB manufacturers prioritize low dielectric loss, high thermal stability and signal integrity. High-end models adopt Megtron series, low-Dk quartz fiber cloth and ultra-low-profile (HVLP) copper. What is the difference between Traditional PC and AI PC?

A traditional PC is designed for general-purpose tasks, such as office applications, browsing, and gaming. It primarily relies on the central processing unit (CPU) and sometimes a graphics processing unit (GPU) for graphics rendering or. AI server motherboard PCB manufacturing has evolved from traditional circuit board production into a cutting-edge engineering discipline that integrates materials science, electromagnetic field theory, thermodynamics, and precision manufacturing. It forms the "neural network" connecting thousands. In the AI era, the PCB is a dielectric waveguide. Selecting between M6, M7, and M8 is a balancing act of decibels per inch versus the total bill of materials. Use for control planes and shorter 56G SerDes lanes. Mandatory for maximum-reach 224G. AI servers and high-speed network equipment all require high-density, high-power BGA-packaged components like GPUs, FPGAs, ASICs, and CPUs. Their mainboards are high-speed digital HDI PCBs.

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