PenMount Introduces PM1420 PCAP Touch Control Board

The newly launched PM1420 projected capacitive (PCAP) touch control board by PenMount is a high-performance touch solution designed specifically for industrial, medical, and commercial applications. This control board features the brand-new intelligent touch IC, iBTPS-1104, developed in-house by the PenMount iBLab team. By integrating AI technology with high-speed processing capabilities, it is highly optimized for PCAP touch solutions.

In addition to the technical advantages already present in PenMount controllers, the PM1420 offers several enhanced features:

Responsiveness, Sensitivity, and Smoothness

The PM1420 is built on iBLab's proprietary SOLOMON Smart Platform, an AI-driven signal processing architecture specially designed for PCAP touch. This platform integrates hardware (ADC, DSP, MCU), firmware (neural network algorithms), and software tools into a single system, delivering a complete touch solution that is highly efficient, power-saving, and intelligent.

The Neural Network DSP embedded in this platform analyzes touch signals in real time and automatically adjusts parameters according to the surrounding environment. This greatly improves detection accuracy and operational stability in high-noise conditions. Compared to traditional touch architectures, it offers greater flexibility and can respond dynamically to both touch input and electromagnetic interference. It is ideal for use in applications such as medical devices and industrial human-machine interfaces (HMI).

With optimized hardware and AI algorithms, the PM1420 supports ten-finger multi-touch and a report rate of up to 120 pps, ensuring that touch operation and gesture are smooth, responsive, and visually synchronized for a more realistic user experience.

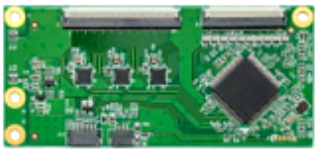
High-Performance Sensing and Noise Immunity

The iBTPS-1104 IC features multi-channel active analog front-end signal processing, combined with multi-stage, multi-mode smart filtering. Even in environments with high electromagnetic interference (such as industrial applications), it maintains stable touch functionality. The design effectively suppresses interference caused by water, gloves, or high-frequency signal sources, reducing false touches and ensuring accurate and stable signal input.

High Compatibility and Scalability

The PM1420 is fully compatible with the existing PenMount PM1410 and PM1415 control board series. It supports PCAP touch panels ranging from 12.1" to 15.6", and retains the same screw hole positions, allowing seamless upgrades for existing products.

PenMount's latest tools—PCIUtility V2.1.0 and PCIMSet V3.1.0—support the PM1420, enabling customers to easily adjust and configure settings. A comparison of the three control boards is shown below:

	 PM1420	 PM1410  PM1415
Controller IC	iBTPS-1104	P2-08 x 2pcs
Sensing Line	38	38
Driving Line	57	57
Interface	USB / I²C / UART	USB / I²C / RS232
Mechanical Size (mm)	90 x 41 x 1	90 x 30 x 1

The iBTPS-1104 controller IC used in PM1420 supports up to 44 touch input channels, theoretically enabling support for large screens up to 32 inches. In the future, we plan to utilize this same IC across a variety of PCAP touch panel sizes.

Whether applied in industrial automation equipment or medical display systems, the PM1420 delivers exceptional performance with intelligent stability and high efficiency. It offers a superior touch experience that helps accelerate product development and gives you a competitive edge in the market.