

## iBTPS-1104 - Advanced Intelligent PCAP Touch Control IC Utilizing the SOLOMON Platform

### *Multidimensional HMI PCAP Control AI ASIC*



iBTPS-1104 is a highly integrated chip developed by iBlab based on SOLOMON platform technology. With nearly two decades of exploration and research in touch screen signal processing, the SOLOMON platform has achieved critical breakthroughs in noise shielding and interference suppression, overcoming screen non-uniformity, and recognizing touch objects (such as fingers). These advancements have led to the development of a neural network-based DSP (Digital Signal Processing unit) integrated with a 32-bit MCU, creating an exceptional PCAP control ASIC environment. iBTPS-1104 combines the key features of SOLOMON into a single chip, making it the first AI-level PCAP ASIC (Application-Specific Integrated Circuit) of its kind.

iBTPS-1104 can synchronize up to 44 sensing channels, serving as the core controller capable of processing over 2 million sensing points per second. It can accurately handle more than 500 frames per second on a 32-inch screen within one second. The dedicated neural network-based DSP unit enables the touch IC to effectively learn and adapt, allowing it to recognize touch inputs with varying finger characteristics. With its extremely low power consumption, iBTPS-1104 is highly efficient for connecting to host systems in commercial, industrial, medical, and even military environments.

The SOLOMON platform's extensive scalability enables the realization of a truly comprehensive HMI (Human-Machine Interaction) solution. Its expansion capabilities include haptics feedback, touch pressure recognition, air gesture recognition, water-resistant button processing, and more. From IC, hardware, and software to tool libraries, everything is fully integrated, significantly enriching the application and performance of HMI functionalities. Manufactured using TSMC's stable and mature process, iBTPS-1104 ensures exceptional reliability and quality.

#### **Specifications and Features:**

- Utilizes iBlab's latest intelligent SOLOMON platform
- Incorporates SOLOMON's multi-channel analog-to-digital, fully integrated digital signal processor (DSP)
- DSP with built-in neural network
- Multi-stage, multi-mode filtering mechanism for noise suppression
- Capable of processing 2 million effective sensing points per second in noise-free environments
- Built-in 32-bit ARM M0 MCU
- I/O Interfaces: USB, I2C, UART, RS232, GPIO
- Touch Control: Supports up to 44 channels / Compatible with touchscreens up to 32 inches / Supported operating systems: Windows and multiple versions of Linux
- Operating voltage and temperature: 3.0V to 3.6V, -40°C to +80°C
- Power management: Sleep/Deep Sleep modes (<6mA)