The Tianma Group Continues to Expand and Enhance PCAP Touch Solutions



Chino, CA, May 15, 2019 – <u>The Tianma Group</u> has dedicated extensive resources to in-house design, development and manufacturing capabilities, ensuring ongoing advancement of its PCAP (Projected Capacitive) Touch technology. With these investments and continuous improvements, Tianma can offer high-quality, integrated PCAP solutions across numerous applications.

Tianma will demonstrate the company's range of PCAP Solutions at <u>Display Week 2019</u>, San Jose Convention Center, Booth 1007.

In addition to providing customers with a variety of touch technologies, Tianma can also provide customers with a wide range of value-added services and solutions. For example, Tianma collaborates with the major touch controller IC suppliers to individually select the ideal chip, so that the best possible combination of sensor, integration, operating system and feature set for any given application is ensured.

At Tianma, customer requirements around cover glass materials, decorative printing, logos, product shapes, and surface treatments can also be specified. Tianma maintains strong relationships with various glass manufacturers and can advise, arrange and manage to find the best overall solution. Together with Tianma's inhouse bonding and LCD display products, all elements of display production are coordinated and come from a single source, enabling a higher level of quality and control to the customer.

Tianma PCAP technologies include:

Optical Bonding Technology

Readability of Tianma's optically bonded displays is superior to that of traditional frame bonding, which leaves an air gap between TFT LCD surface and sensor glass. Tianma is exhibiting a 10.1" WXGA display highlighting the differences between optical and air gap bonding.

Wet & Glove Technology

Wet & Glove PCAP displays perform even when the screen is wet and the operator is wearing gloves. With this technology, Tianma PCAP touch panels support high-end display devices used in challenging conditions such as construction, marine or medical applications. To showcase the benefits of Tianma's Wet and Glove touch technology, the company is demonstrating a 21.5" FHD display with optical bonding.

TED Technology

Touch Embedded Display (TED) technology integrates a high-performance touch function sensor inside the TFT glass cell. TED creates a high-quality liquid crystal display with excellent optical performance and touch performance in one display. The technology also achieves an ultra-narrow border design and slim module design. Tianma will have a variety of displays featuring Tianma's TED technology. The displays include a 5" HD TED display with 2.5mm passive stylus and a 10.1" WUXGA portrait display.

On-cell Touch Technology

With this technology, an ITO pattern forms mutual capacitance electrodes on the color filter, resulting in ultralow surface reflection, ultra-narrow / ultra-thin bezel, and very sensitive touch. During Display Week 2019 Tianma will showcase a 3.5" on-cell touch display featuring "dead front" and the company's SFT wide viewing angle technology.

Force Touch Technology

Referred to as TED Plus, this Tianma original technology provides in-cell force touch function in the display panel. Through the integration of in-cell force sensors, the TED Plus OLED display panel can provide full screen force touch function for an improved interactive experience, without any increase in thickness and cost. Tianma will be demonstrating a pair of 6.x" AMOLED displays with TED Plus technology (one a foldable display and the other a rigid FHD display).

3D Touch Technology

Tianma's goal is to create new markets, and to this end the company has developed a high-density floating 3D image display. The entire screen can display high-quality aerial images using a new lens design, a high-density autostereoscopic display (HxDP®), and an aerial display plate. A 7.2" floating 3D display will demonstrate Tianma's latest generation HxDP technology.

Active/Passive Stylus Pen Technology

Tianma's Active/Passive Stylus Pen Technology for LCDs allows users to write directly on the LCD screen surface of a computing device such as a smartphone, tablet computer or Ultrabook. The Active/Passive Stylus Pen technology supports inductive capability for active pens, movable pens, electro-magnetic pens and resistance pens. The company is demonstrating a 5" HD TED display with 2.5mm passive stylus.

Multimodal Tactile Feedback

Tianma's Tactile Feedback technology enables users to reconstruct the tactile sensation from a series of actions including force, vibration, and other tactile commands. To meet manufactures' needs for product differentiation, Tianma has developed two different tactile feedback display demos, geared toward automotive and smart device applications. This year the company is showing two tactile displays: an 8.4" tactile touch display with ten touch points for Smart Devices, and a 10.4" tactile touch display with two touch points for automotive applications.

Tianma's range of PCAP solutions, along with the company's expansive family of displays and technologies, will be showcased at <u>Display Week 2019</u>, May 14 to 16 in San Jose, California, USA, in Booth 1007. Tianma's online press kit can be found at: http://sid.vporoom.com/Tianma

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About Tianma America, Inc.

Tianma America (TMA) is the leading provider of small- to medium-size display solutions to the Americas market utilizing advanced technologies and manufacturing resources of the Tianma Group Companies, which includes Tianma Micro-electronics (Shenzhen and Shanghai) and Tianma Japan, Ltd. (formerly known as NLT Technologies Ltd.), as well as manufacturing locations in Chengdu, Wuhan, Xiamen, Shenzhen and Shanghai China. Tianma America technologies can be found in smartphones, tablet PCs, industrial and medical instrumentation, wearables, home automation, household appliances, office equipment, and automotive and rear seat entertainment devices. Additional applications include test and measurement systems, instrumentation equipment, point-of-sale and ATM systems, gaming systems, global positioning systems, radio-frequency identification devices and barcode scanners.

Tianma America's technology portfolio comprises TFT, LTPS, Oxide-TFT, AM-OLED, flexible, transparent, 3D, PCAP and In-cell/On-cell integrated touch. With a network of best-in-class distributors and value-added partners, Tianma America provides complete display module solutions for a broad base of customers and applications.

The content in this press release, including, but not limited to, product prices and specifications, is based on the information as of the date indicated on the document, but may be subject to change without prior notice.

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