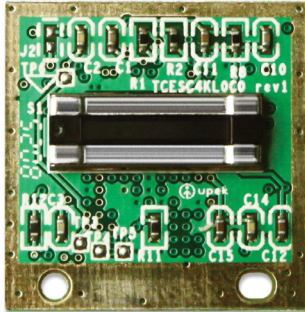


# TouchChip® TCESC4K Module

Silicon Swipe Fingerprint Module



## PRODUCT DESCRIPTION

The TouchChip TCESC4K swipe module is compact, cost effective and easy to integrate. The on-board processor is used for capture and match, delivering fast and accurate results. It can store up to approximately 100 user templates and supports USB, SPI or UART interfaces. Power consumption is less than 80ma during capture and match, and a low power auto-wake feature detects when a finger is on the module, making the TCESC4K module ideal for battery applications.

For easy integration, the TCESC4K module is fully assembled and tested. Just connect and interface with simple commands. The TCESC4K module also offers a convenient user experience based on proprietary technology that senses 3-D ridges and valleys of a fingerprint and captures the highest image quality for a swipe sensor.

The TCESC4K swipe module is designed for use with the TouchChip Module Development Kit. Whether you are an OEM or system integrator, Crossmatch® biometric identity verification solutions provide a natural extension to your applications.

## APPLICATIONS

Embedded systems, such as:

- Garage door openers
- USB flash drives
- Car alarms and more

## FEATURES

- USB, UART and SPI
- Low power consumption
- Compact size
- High durability silicon surface
- Windows® 32-bit and 64-bit, Linux® x86, embedded systems (with and without OS)

## ABOUT CROSSMATCH

Crossmatch helps organizations solve their identity management challenges through biometrics. Our enrollment and authentication solutions are trusted to create, validate and manage identities for a wide range of government, law enforcement, financial institution, retail and commercial applications. Our solutions are designed using proven biometric technologies, flexible enrollment and strong multi-factor authentication software, and deep industry expertise. We offer an experienced professional services capability to assess, design, implement and optimize our identity management solutions for a customer's individual challenges. Our products and solutions are utilized by over 200 million people in more than 80 countries.

Learn more at [www.crossmatch.com](http://www.crossmatch.com)

# TouchChip® TCESC4K Module

Silicon Swipe Fingerprint Module



## HARDWARE

Fingerprint Sensor	TSC4K (192 pixels), 508 or 381 dpi, 9.6 x 25 mm image size, SteelCoat protective layer
Processor	TCD58E, 32-bit RISC, 144 MIPS
Fingerprint Template Database Size	Up to ~100 templates (typical)
ESD	IEC 61000-4-2 level 4 +/- 15KV air, +/- 8KV contact
Power (typical)	<ul style="list-style-type: none"><li>• 3.0V to 3.6V, 78 ma (capture, match, navigate)</li><li>• Standby (USB): 1350uA</li><li>• Standby (UART/SPI): 1150uA</li></ul>
Finger Detection Option	Wakes from low power state with user's touch
Dimensions	20.0 x 19.7 x 3.6 mm
Environmental	<ul style="list-style-type: none"><li>• Operating temp: -30 to +70 C</li><li>• Storage temp: -30 to +125 C</li><li>• Humidity: 5% - 93% no condensation</li><li>• ROHS, low halogen</li></ul>
Connector	ZIF FFC, 12 pos x 0.5mm x 0.3mm (cable not provided)

## BIOMETRIC / CREDENTIAL CAPTURE

Swipe Speed	~ 40cm/sec
Match Time	<ul style="list-style-type: none"><li>• 1 finger: &lt; 0.4 sec (from finger liftoff)</li><li>• 15 fingers: &lt; 0.75 sec</li><li>• 100 fingers: ~2.5 sec</li></ul>

## SENSOR DURABILITY

Swipe Resistance	> 20 million swipes
Pen Scratch Resistance	6H hardness with 20N force
Pen Drop Resistance	60 cm
Call Drop Resistance	60 cm
Waterproof	24h water soak
Chemical Resistance	24h contamination with over 20 chemicals

## SOFTWARE AND TOOLS

PerfectTrust API (PTAPI) Embedded	Image capture and transfer, enrollment, match
Platform Support	<ul style="list-style-type: none"><li>• UART and SPI interface libraries: reference implementation for 32-bit MCUs in C source code</li><li>• USB: Windows® to 8.1, Linux® x86/x64 and Android 3.1 (API Level 12) or newer</li></ul>
<i>Data subject to change without notice</i>	

## PRODUCT ORDERING INFORMATION

- TouchChip Embedded Module (TCS4K sensor, TCD58E processor, USB/SPI/UART): TCESC4KSOC0
- TCESC4K Starter Kit(80 TCESC4K modules)MOQ for bulk orders: 400: TCKT06

### Corporate Headquarters:

**Crossmatch**  
3950 RCA Boulevard, Suite 5001  
Palm Beach Gardens, FL 33410 USA

[www.crossmatch.com](http://www.crossmatch.com)