

Silicon Fingerprint OEM Module

SM-831

Product Specification

Version: V1.0



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1. Product Overview

1.1 Brief Introduction

MIAXIS® SM-831 is an FBI-PIV certified Fingerprint OEM module and complies with the FBI Mobile ID FAP30 specification.

Ultra slim and lightweight , this device is designed for ID authentication systems. It supports finger image capture, image encryption, Live Finger Detection(LFD), NIST-certified interoperable image and template format Standards, and image compression standards. Mainstream SDKs for Windows, Android, Linux are available, facilitating easy integration into biometric authentication and individual identity verification systems.

1.2 Application

Widely used for information security, e-ID, identity verification industries.

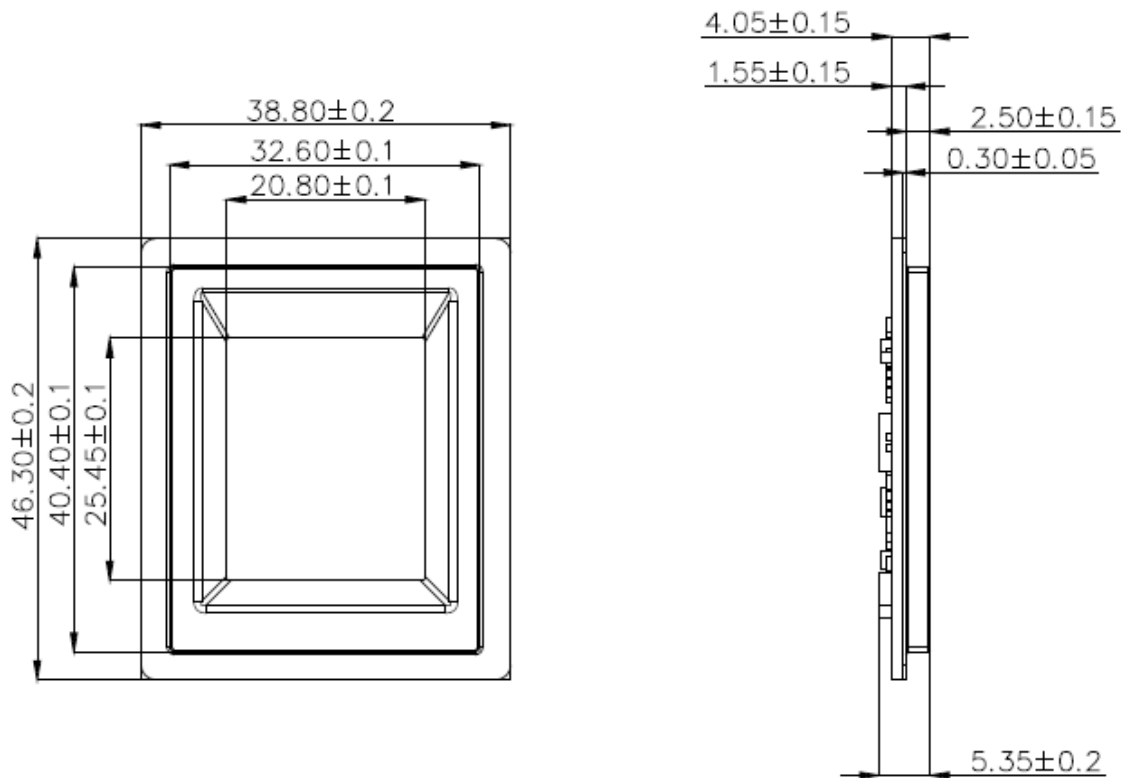
2.Product Specification

2.1 Technical Parameters

Specification	Detail
Dimension (W x L x H)	46.3mm x 38.8mm x 4.05mm (without FPC connector)
Sensor Type	Capacitive Sensor
Image Spec	FBI PIV & FAP30
Image Resolution	508 dpi

Grey Scale	8bit, 256 levels
Image Format	WSQ, JPEG2000, RAW, BMP, ISO 19794-4, ANSI 381
Compression Ratio	Up to 15:1
Quality Score	NFIQ v1.0
FRR	≤1%
FAR	≤0.001%
Enrollment Time	≤500ms (collect one image and upload by USB)
Ingress Protection	IP65 (Sensor Surface)
Weight	9.4g
Operating Temperature	-10°C to +55°C
Storage Temperature	-20°C to +60°C
Operating Humidity	20%RH ~ 90%RH, non-condensing
ESD Immunity	±8kV contact discharge, ±15kV air discharge
Interface	USB、UART、SPI
Power Supply	DC5V±5% (USB&UART), DC3.3V±5% (SPI)
Supply Current	≤230mA (DC5V Powered)
Operating System Environment	Android 6 or higher Windows 10 or higher Linux

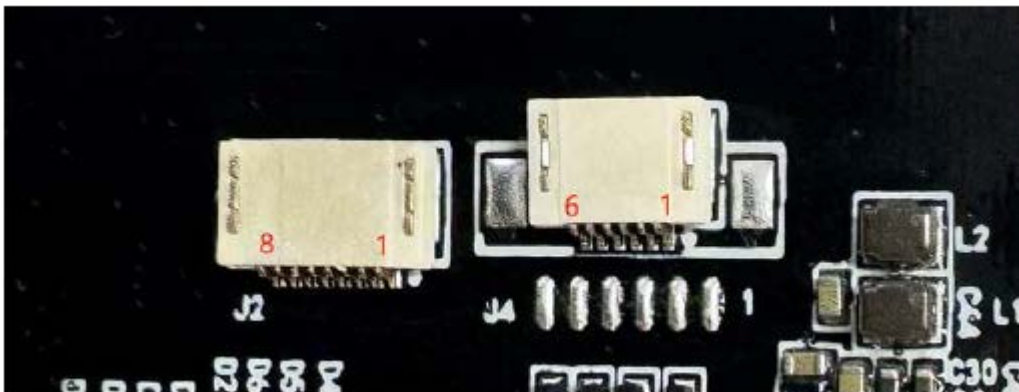
2.2 Mechanical Dimension



Mechanical Dimension (Unit: mm)

2.3 Output interface

2.3.1 Interface definition



External interface PIN description

USB & UART Connector: FPC 6Pin pitch 0.5mm/ Wafer 6Pin pitch 1.0mm

Pin NO.	Pin Name	Pin Type	Function
1	VCC	P	Module power pin, DC 5V
2	USB_DM	I/O	USB different signal D-
3	USB_DP	I/O	USB different signal D+
4	GND	P	Module ground pin
5	UART_RXD	I/O	TTL Serial data input, 3.3V level
6	UART_TXD	I/O	TTL Serial data output, OD

SPI Connector: FPC 8Pin pitch 0.5mm

Pin NO.	Pin Name	Pin Type	Function
1	VDD3V3	P	Module power pin, DC 3.3V
2	GND	P	Module ground pin
3	GND	P	Module ground pin
4	SPI_MISO	I/O	SPI Master Input Slave Out signal, 3.3V Level
5	SPI_MOSI	I/O	SPI Master Out Slave Input signal, 3.3V Level
6	SPI_CS	P	SPI Chip Select, 3.3V Level
7	SPI_CLK	P	SPI Clock Signal, 3.3V Level
8	RST	P	Reset signal, active low.