

ePalm Devices



Catalogue

Introduction

In this revolutionary world, utilizing technology is becoming a crucial element to simplify the life of the human beings.

Traditional identification and authorization mechanism is going to be obsoleted in the near future as it's demanding massive energy volumes, consuming the earth resources, pollute the environment, emissions, papers and plastic waste and accordingly it's the right time to introduce our immersive and revolutionary identification solution to save the earth and impact positively on the human livings.

Prema is introducing the ePalm Solutions as a unique and pioneer identification and processing method relying on the human biometrics to process any identification procedure and then initiate the related procedure or transaction instead of normal methods such as Cards or Credentials.

The ePalm devices are planned to become a complete Identification and Authentication solution which will be replacing the current method used in the financial and banking industry. Processing transactions is also applicable with the ability to integrate with the ePalm Payment Solutions, accordingly, this will apply a smooth process to move cash in a digital, secure, and easy mechanism.

The ePalm devices are designed and manufactured based on high technology standards including:

- High Quality product components
- Consistent and customizable products
- Easy to Integrate & Connect with other systems
- Easy to install for indoor and outdoor use, with a built-in mount
- Audible and visual effects ideal for high footfall areas
- Device-to-server encryption ensuring highest security standards

ePalm Technology

Prema has collaborated with a well-known Japanese manufacturer “Fujitsu International” to produce a patent and unique Biometric solutions serving different vertices such as Governmental, Transportation, Law Enforcement, Financial Entities, Health Care, Educational etc... The newborn of this collaboration is owned by Prema ePalm Solutions and is recognized as “The ePalm”.

Technical Specification F-Pro Biometric Device by Fujitsu

The Palm Vein Biometric Device “F-Pro” is manufactured by Fujitsu International, a light weight and small device; Less than 12gm and sized as 2.9 X 2.9 X 1.3cm.



The touchless device can detect the palm veins for a living human using infrared technology from a distance between 3.5 up to 7 centimeters.

The identification process is rapidly fast which takes less than 8ms.

The device has patent, durability, security, agility, usability and tens of other certifications from international reliable institutes.

This revolutionary solution is the future of identification eliminating cost and time of manufacturing cards, fraudulent and applying the utmost security measurements.

Additionally, such a touchless and an accurate biometric device will eliminate the risk of spreading viruses through the existing authentication methods.

1. ePalm Merchant's Devices

The following devices which are offered for authentication purposes:

1.1 ePalm Connect

ePalm Connect is a standalone smart plug and play module that allows direct and instant interaction and integration with the existing POS devices or any other devices.



ePalm Connect is designed based on the open connectivity standards allowing communications between the current POS devices “that has Hardware encryption and architecture limitations” with the ePalm Sensor adding a new dimension to process identification and authorization through the ePalm Solutions.

Technical Specifications:

Followed are the main device specifications:

CPU	Quad-core 64-bit ARMv7
Memory	512MB RAM
Storage	Onboard Storage 16 GB
OS	Ubuntu
Certifications	EMCJ, FOFIS, EMI, IEC, IECE, RoHS, NWGQ, NWGQ7
Ports (Host)	One USB 2.0 Type C
LED	Power & Status LED
Power	Type C USB Port ,5V DC
Battery	5v lithium battery, 500 mA
Usability	Palm Veins Identification and Authentication using ePalm technology

3D Images:



1.2 ePalm Connect+

ePalm Connect+ is a standalone smart plug and play module that allows direct and instant interaction and integration with the existing POS devices and other devices.



ePalm Connect+ is designed based on the open connectivity standards allowing communications between the current POS and other devices “that have Hardware encryption and architecture limitations” with the ePalm Sensor adding a new dimension to process identification and authorization through the ePalm Solutions. This is an upgradable version of the ePalm Connect where it has a motorized engine that use enhanced motion detection sensor and algorithms to facilitate the alignment of person’s palm resulting in an exceptional capturing speed of their palm veins.

Technical Specifications:

Followed are the main device specifications:

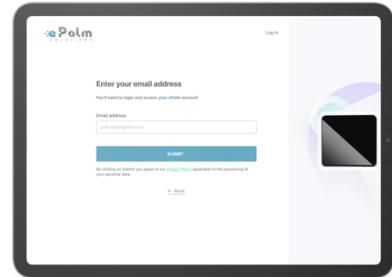
CPU	Quad-core 64-bit ARMv7
Memory	512MB RAM
Storage	Onboard Storage 16 GB
OS	Ubuntu
Certifications	EMCJ, FOFIS, EMI, IEC, IECE, RoHS, NWWGQ, NWWGQ7
Ports	One USB 2.0 Type C
LED	Power & Status LED
Power	Type C USB Port ,5V DC
Battery	5v lithium battery, 500 mA
Motion	ePalm Motion using Mini Servo Motor and Image processing
Usability	Palm Veins Identification and Authentication using ePalm technology

3D Images:



1.3 ePalm Surface

The ePalm Surface was created to meet the authentications requirement as to fulfil the customers need. For example, Merchant’s will be able to plug and play the device to their cash registry allowing direct communication with their POS software. With such compatible device, they will be able to offer payments processing for their customers through scanning their palm veins. Additionally, relevant information will be displayed over the screen which is embedded within the device and also generating revenues from the presented advertisements and marketing materials. Tens of other usability for such a device in different sectors.

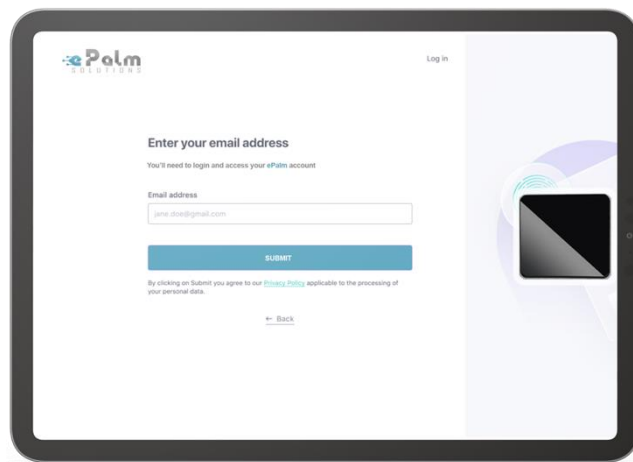


Technical Specifications:

Followed are the main device specifications:

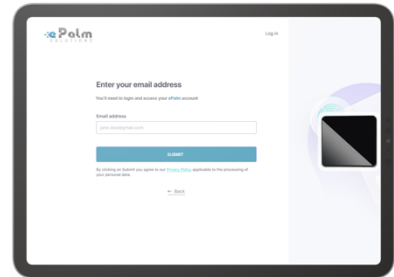
MCU	ePalm MCU: Dual-core Arm Cortex M0+ processor up to 133 MHz, 264KB of SRAM, and 8MB of on-board Flash memory.
Certifications	EMCJ, FOFIS, EMI, IEC, IECE, RoHS, NWGQ, NWGQ7
Ports	Two USB 2.0 Type C ports
Display	10 Inch HD Screen with HDMI port.
LED	Power & Status LED
Interfaces	2 Type C USB Ports ,5V DC Port and HDMI Port.
Usability	Palm Veins Identification and Authentication using ePalm technology

3D Images:



1.4 ePalm Surface+

The ePalm Surface+ is a smarter version of the ePalm Surface device, where it has similar features but an additional motorized module that use enhanced motion detection sensor and algorithms to facilitate the alignment of person’s palm resulting in an exceptional capturing speed of their palm veins.

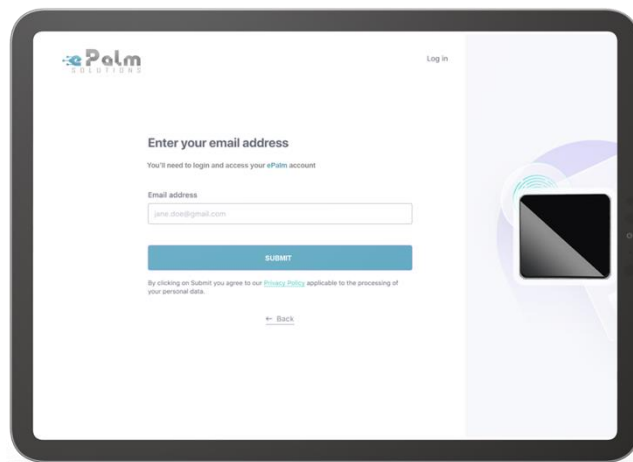


Technical Specifications:

Followed are the main device specifications:

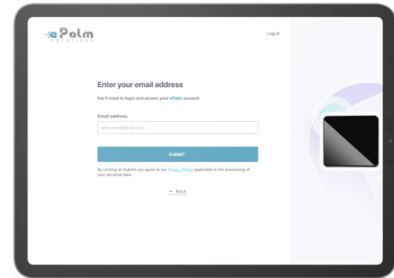
MCU	ePalm MCU: Dual-core Arm Cortex M0+ processor up to 133 MHz, 264KB of SRAM, and 8MB of on-board Flash memory.
Certifications	EMCJ, FOFIS, EMI, IEC, IECE, RoHS, NWWGQ, NWWGQ7
Ports	Two USB 2.0 Type C ports
Display	10 Inch HD Screen with HDMI port.
LED	Power & Status LED
Interfaces	2 Type C USB Ports ,5V DC Port and HDMI Port.
Motion	ePalm Motion using Mini Servo Motor and Image processing

3D Images:



1.5 ePalm Surface Pro

The ePalm Surface Pro is a smarter version of the ePalm Surface device, where it has similar features but an additional robust computing unit allowing the device to run as a standalone workstation.

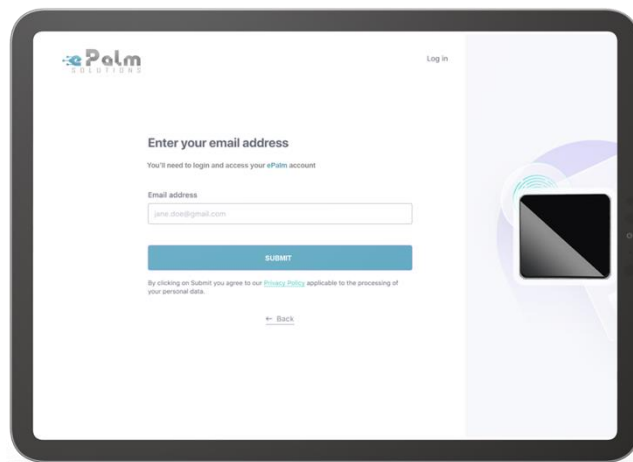


Technical Specifications:

Followed are the main device specifications:

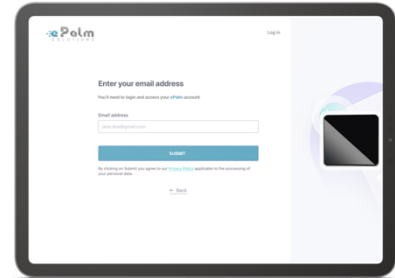
CPU	Octa-core 64-bit ARMv8
Memory	2GB RAM
Storage	Onboard Storage 16 GB
OS	Ubuntu
Certifications	EMCJ, FOFIS, EMI, IEC, IECE, RoHS, NWGQ, NWGQ7
Radio Communication	Wi-Fi (WiFi802.11b/G/N 2.4G/5.8g) +Bluetooth+4G+3G+2G
Ports	Two USB 2.0 Type C ports
Display	10 Inch HD Screen.
LED	Power & Status LED
Interfaces	2 Type C USB Ports.
Battery	Battery 4000 mA
GSM	4G GSM Module
Usability	Palm Veins Identification and Authentication using ePalm technology

3D Images:



1.6 ePalm Surface Ultimate

The ePalm Surface Ultimate is a smarter version of the ePalm Surface+ device, where it has similar features but an additional robust computing unit allowing the device to run as a standalone workstation.

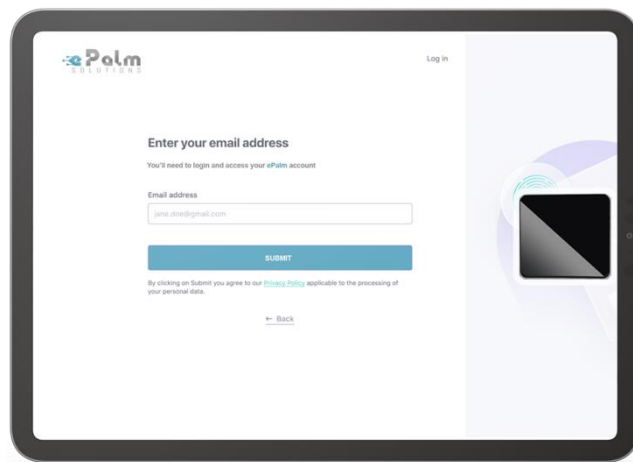


Technical Specifications:

Followed are the main device specifications:

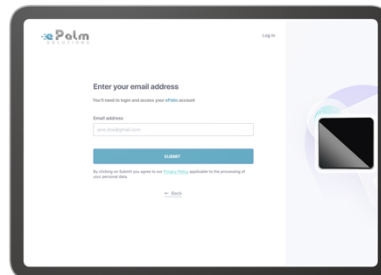
CPU	Octa-core 64-bit ARMv8
Memory	4GB RAM
Storage	Onboard Storage 16 GB
OS	Ubuntu
Certifications	EMCJ, FOFIS, EMI, IEC, IECE, RoHS, NWGQ, NWGQ7
Radio Communication	Wi-Fi (WiFi802.11b/G/N 2.4G/5.8g) +Bluetooth+4G+3G+2G
Ports	Two USB 2.0 Type C ports
Display	10 Inch HD Screen.
LED	Power & Status LED
Interfaces	2 Type C USB Ports.
Battery	Battery 4000 mA
GSM	4G GSM Module
Motion	ePalm Motion using Mini Servo Motor and Image processing
Usability	Palm Veins Identification and Authentication using ePalm technology

3D Images:



1.7 ePalm Corporate Tab

The ePalm Corporate Tab was created to meet enterprise level requirement as to fulfil their financial needs. It includes the ePalm device and the bank mobile and internet banking application preinstalled. Corporates authorized personnel will be able to use the device and the service to issue salaries, transfer money, request cheque books and tens of other requests, securely, safely and instantly. No need to send authorization documents to the bank’s branches to issue the salaries...

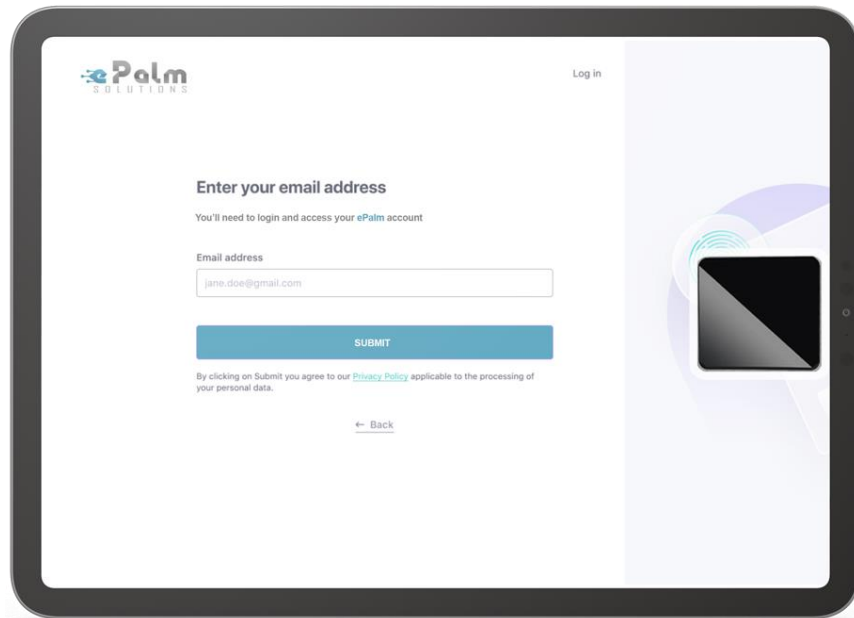


Technical Specifications:

Followed are the main device specifications:

CPU	Octa-core 64-bit ARMv8
Memory	4GB RAM
Storage	Onboard Storage 64 GB
OS	Android 9.0+
Certifications	EMCJ, FOFIS, EMI, IEC, IECE, RoHS, NWGQ, NWGQ7
Radio Communication	Wi-Fi (WiFi802.11b/G/N 2.4G/5.8g) +Bluetooth+4G+3G+2G
Ports	Two USB 2.0 Type C ports
Display	10 Inch HD TFT Screen.
LED	Power & Status LED
Interfaces	2 Type C USB Ports.
Battery	Battery 6000 mA
GSM	4G GSM Module
Usability	Palm Veins Identification and Authentication using ePalm technology

3D Images:



1.8 ePalm POS Terminal Standard

The ePalm POS Terminal is a standalone point of sale device offered for merchants allowing payments processing for their customers through scanning their palm veins. Such device could be used for identification and authentication in tens of other different sectors.



Technical Specifications:

Followed are the main device specifications:

CPU	ARM Cortex A53 Octa Core
ROM & RAM	RAM 2GB+ Flash ROM 16GB
OS	Android 11
Support	Facial Recognition: ISO 30107-3 Biometric Presentation Attack Detection (PAD) Standard Level 1 and Level 2, assured by iBeta Palm Veins: ePalm Payment Solutions – ePalm Sensor
Certifications	EMCJ, FOFIS, EMI, IEC, IECE, RoHS, NWGQ, NWGQ7.
Radio Communication	Wi-Fi (WiFi802.11 a/b/g/n/ac 2.4Ghz/5Ghz) + Bluetooth (BT2.1+EDR/3.0/4.1LE/4.2BLE) GPS/BeiDou/GLONASS or GPS/BeiDou/Galileo, A-GPS
Display	Display 5.5 Inch, Multi Touch Screen, 1.8 Inch Front Screen
Power	Adapter DC 5.0V/ 2.0A
Battery	Built in Li-Ion Polymer, 3.7V/ 5,000mAh
GSM	4G(LTE), FDD: B1/B3/B5/B8, TDD: B34/B38/B39/B40/B41 3G (WCDMA): B1/B8, TDSCDMA: B34/B39, EVDO: BC0 GSM:900/1800MHZ
Additional Features	Printer: Thermal Direct 58mm, 40mm/sec Barcode Scanner Support 1D and 2D Dimension: 231.86 x 99 x 81.81cm 2 SIM card Slots, Built in 1.0W Speaker and 5MP Camera

3D Images:



1.9 ePalm POS Terminal+

From basic payment acceptance to more advanced features and functionality, the ePalm POS Terminal+ device was designed with convenience, security and simplicity in mind. It provides merchants with the tools and flexibility they need to operate efficiently and easily.

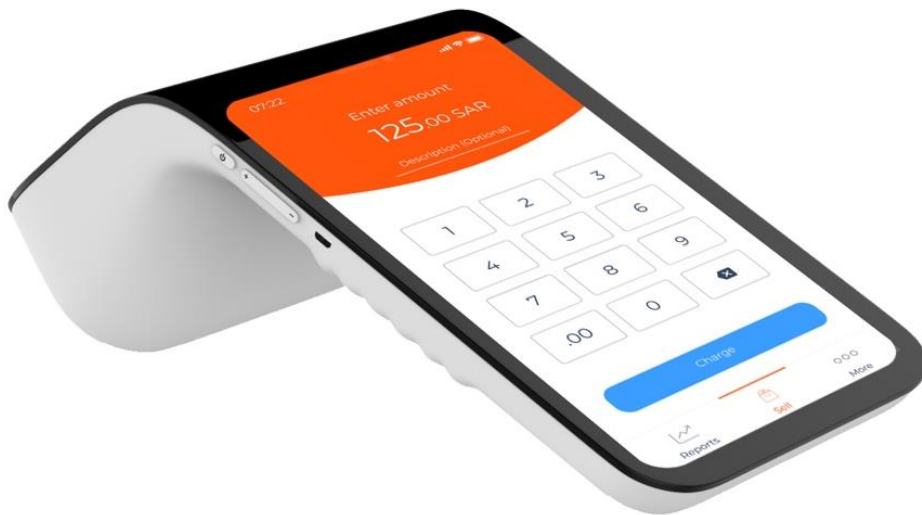


Designed for both indoor and outdoor use, the compact Move/series range is the perfect business companion to create a seamless shopping experience that’s free from the checkout supporting ePalm payments through scanning the palm veins, in addition, allowing traditional customers to pay using their Magnetic Cards, Smart Cards, Contactless Cards or using Barcode Scanner.

Technical Specifications:

CPU	ARM Cortex A53 Octa Core
ROM & RAM	RAM 2GB+ Flash ROM 16GB
OS	Android 11
Support	Facial Recognition: ISO 30107-3 Biometric Presentation Attack Detection (PAD) Standard Level 1 and Level 2, assured by iBeta Palm Veins: ePalm Payment Solutions – ePalm Sensor
Certifications	EMV L1/L2, CE, FCC, Visa, Master, PCI Pts 6.X EMCJ, FOFIS, EMI, IEC, IECE, RoHS, NWGQ, NWGQ7.
Radio Communication	Wi-Fi (WiFi802.11 a/b/g/n/ac 2.4Ghz/5Ghz) + Bluetooth (BT2.1+EDR/3.0/4.1LE/4.2BLE) GPS/BeiDou/GLONASS or GPS/BeiDou/Galileo, A-GPS
Display	Display 5.5 Inch, Multi Touch Screen, 1.8 Inch Front Screen
Power	Adapter DC 5.0V/ 2.0A
Battery	Built in Li-Ion Polymer, 3.7V/ 5,000mAh
GSM	4G(LTE), FDD: B1/B3/B5/B8, TDD: B34/B38/B39/B40/B41 3G (WCDMA): B1/B8, TDSCDMA: B34/B39, EVDO: BC0 GSM:900/1800MHZ
Additional Features	Magstripe Card: 1 / 2 / 3 track, two-way card, Smart Card Reader: EMV Standards NFC: ISO/IEC 14443 Type A/B, Mifare® card Printer: Thermal Direct 58mm, 40mm/sec Barcode Scanner Support 1D and 2D Dimension: 231.86 x 99 x 81.81cm 2 SIM card Slots, Built in 1.0W Speaker and 5MP Camera

3D Images:



1.10 ePalm POS Terminal Ultimate

From basic payment acceptance to more advanced features and functionality, the ePalm POS Terminal Ultimate device was designed with convenience, security and simplicity in mind. It provides merchants with the tools and flexibility they need to operate efficiently and easily.

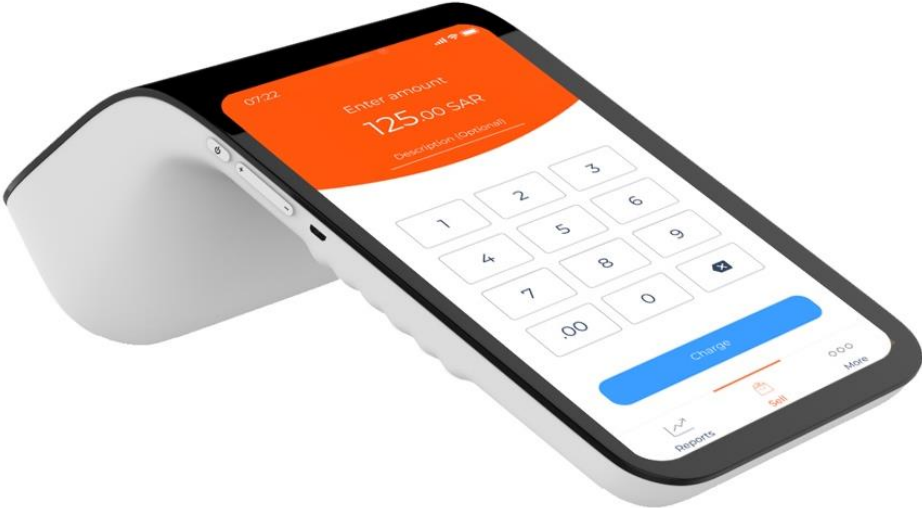


Designed for both indoor and outdoor use, the compact Move/series range is the perfect business companion to create a seamless shopping experience that's free from the checkout supporting ePalm payments through scanning the palm veins, in addition, allowing traditional customers to pay using their Magnetic Cards, Smart Cards, Contactless Cards or using Barcode Scanner.

Technical Specifications:

CPU	ARM Cortex A53 Octa Core
ROM & RAM	RAM 2GB+ Flash ROM 16GB
OS	Android 11
Support	Facial Recognition: ISO 30107-3 Biometric Presentation Attack Detection (PAD) Standard Level 1 and Level 2, assured by iBeta Palm Veins: ePalm Payment Solutions – ePalm Sensor
Certifications	EMV L1/L2, CE, FCC, Visa, Master, PCI Pts 6.X EMCJ, FOFIS, EMI, IEC, IECE, RoHS, NWGQ, NWGQ7.
Radio Communication	Wi-Fi (WiFi802.11 a/b/g/n/ac 2.4Ghz/5Ghz) + Bluetooth (BT2.1+EDR/3.0/4.1LE/4.2BLE) GPS/BeiDou/GLONASS or GPS/BeiDou/Galileo, A-GPS
Display	Display 7 Inch, Multi Touch Screen, 1.8 Inch Front Screen
Power	Adapter DC 5.0V/ 2.0A
Battery	Built in Li-Ion Polymer, 3.7V/ 5,000mAh
GSM	4G(LTE), FDD: B1/B3/B5/B8, TDD: B34/B38/B39/B40/B41 3G (WCDMA): B1/B8, TDSCDMA: B34/B39, EVDO: BC0 GSM:900/1800MHZ
Additional Features	Magstripe Card: 1 / 2 / 3 track, two-way card, Smart Card Reader: EMV Standards NFC: ISO/IEC 14443 Type A/B, Mifare® card Printer: Thermal Direct 58mm, 40mm/sec Barcode Scanner Support 1D and 2D Dimension: 231.86 x 99 x 81.81cm 2 SIM card Slots, Built in 1.0W Speaker and 5MP Camera

3D Images:



2. ePalm Enrollment Devices

The current payment solutions are affecting negatively on the climate due to the huge amount of plastic manufacturing and wastes being produced every single minute for each individual having such service privilege. The Fraud and Security issues are on their utmost levels. A crucial health issue appeared recently due to COVID-19 pandemic and the need of a touchless payment solution to eliminating viral spreading of the virus without sacrificing security measurements, accordingly, Prema introduced a new way to enroll customers and identify their identity using the ePalm technology.

The following devices are offered for the financial entities in order to facilitate the enrollment process:

2.1 ePalm Enrollment Station

The basic and standard enrollment station consists of the ePalm sensor and a physical guide.



2.2 ePalm Enrollment Station+

A basic cost-efficient contactless enrollment station.



Technical Specifications:

Followed are the main device specifications:

MCU	ePalm MCU: Dual-core Arm Cortex M0+ processor up to 133 MHz, 264KB of SRAM, and 8MB of on-board Flash memory.
Certifications	EMCJ, FOFIS, EMI, IEC, IECE, RoHS, NWGQ, NWGQ7
Ports	One USB 2.0 Type C
LED	Power & Status LED
Power	Type C USB Port ,5V DC
Usability	Palm Veins Identification, Authentication and Enrollment using ePalm technology

3D Images:



2.3 ePalm Mouse

The ePalm Mouse is a highly reliable, non-invasive and easy to use biometric authentication mechanism that seamlessly integrates into your login security and access management environments both individuals and enterprise customers can deploy a secure biometric login system with extended Single Sign-On capabilities.



Technical Specifications:

Sensor surface material	Glass
Optical resolution	1,200 DPI
Voltage/Current	5V DC; 900 mA (Max.)
Host interface	USB2.0 (High Speed)
USB interface	Cable length 1 m
Certifications	EMCJ, FOFIS, EMI, IEC, IECE, RoHS, NWGQ, NWGQ7
LED	Power & Status LED
Usability	Palm Veins Identification, Authentication and Enrollment using ePalm technology
Support	Windows 10, 11, Linux, macOS
Installation environment:	Temperature: 5 to 35° C Humidity: 20 to 80% Relative humidity Approx. brightness: Authentication Normal-power mode: Below 45,000 lux High-power mode: Below 80,000 lux Enrollment Below 5,000 lux
Power consumption	2.5W or less
Reliability	MTBF (mean time between failure): Mouse:161,000 hours Life of Unit: 5 years
Operating temperature	0° to 60°C
Outer dimensions	4.71×2.48×1.54 inches
Weight	72gm

2.4 ePalm eGuide

The ePalm eGuide is an advance, contactless and smart enrollment station that allows customers to position their palm correctly and easily during an enrollment process.

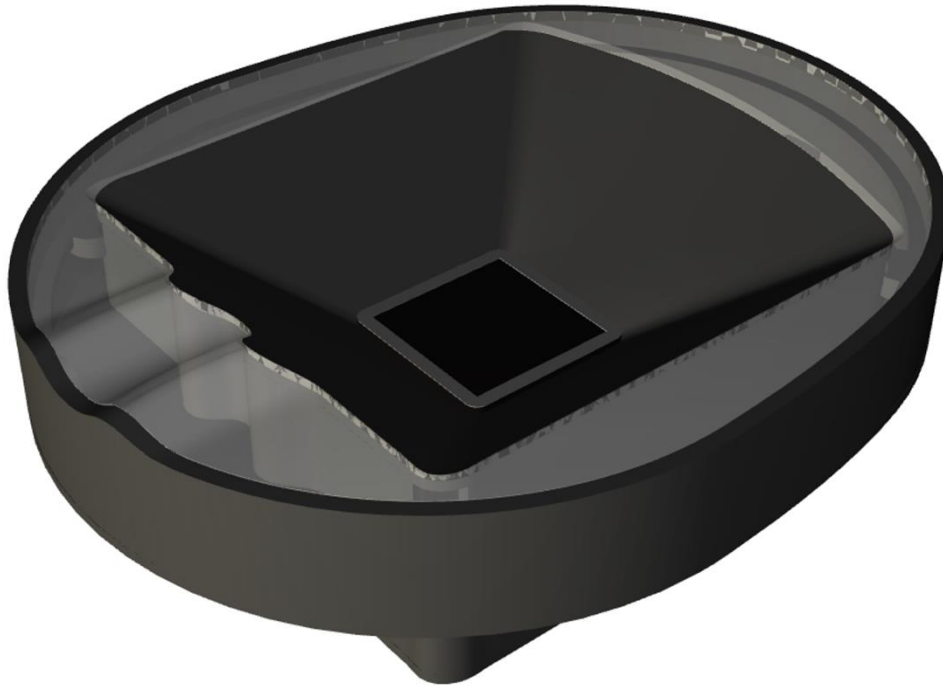


Technical Specifications:

Followed are the main device specifications:

MCU	ePalm MCU: Dual-core Arm Cortex M0+ processor up to 133 MHz, 264KB of SRAM, and 8MB of on-board Flash memory.
Certifications	EMCJ, FOFIS, EMI, IEC, IECE, RoHS, NWGQ, NWGQ7
Ports	One USB 2.0 Type C
LED	Power & Status LED
Power	Type C USB Port ,5V DC,2A
Usability	Palm Veins Identification, Authentication and Enrollment using ePalm technology

3D Images:



2.5 ePalm iEnrollment+

An advance, contactless and smart enrollment station with a display, the station consists of the ePalm sensor and a 1.8" rounded LCD screen.



Technical Specifications:

Followed are the main device specifications:

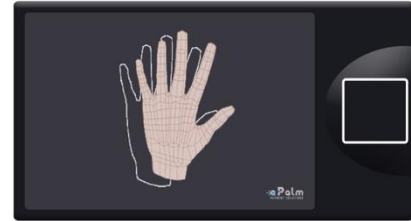
MCU	ePalm MCU: Dual-core Arm Cortex M0+ processor up to 133 MHz, 264KB of SRAM, and 8MB of on-board Flash memory.
Certifications	EMCJ, FOFIS, EMI, IEC, IECE, RoHS, NWGQ, NWGQ7
Ports	Two USB 2.0 Type C ports
Display	1.8" rounded LCD screen
LED	Power & Status LED
Power	Type C USB Port ,5V DC,2A
Usability	Palm Veins Identification, Authentication and Enrollment using ePalm technology

3D Images:



2.6 ePalm iEnrollment Pro

An advance, contactless and smart enrollment station with a display, the station consists of the ePalm sensor and a 5" HD screen.

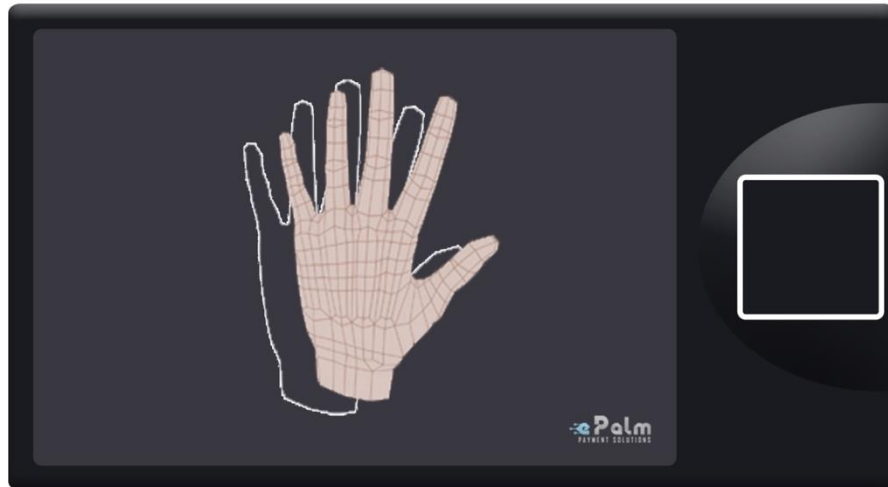


Technical Specifications:

Followed are the main device specifications:

MCU	ePalm MCU: Dual-core Arm Cortex M0+ processor up to 133 MHz, 264KB of SRAM, and 8MB of on-board Flash memory.
Certifications	EMCJ, FOFIS, EMI, IEC, IECE, RoHS, NWGQ, NWGQ7
Ports	Two USB 2.0 Type C ports
Display	5" LCD screen
LED	Power & Status LED
Power	Type C USB Port ,5V DC
Usability	Palm Veins Identification, Authentication and Enrollment using ePalm technology

3D Images:



2.7 ePalm iEnrollment Ultimate

More powerful and portable, advance, contactless and smart enrollment station with a display, the station consists of the ePalm sensor and a 5" TFT screen.



Technical Specifications:

Followed are the main device specifications:

CPU	Octa-core 64-bit ARMv8
Memory	2GB RAM
Storage	Onboard Storage 64 GB
OS	Android 7.0+
Certifications	EMCJ, FOFIS, EMI, IEC, IECE, RoHS, NWGQ, NWGQ7
Radio Communication	Wi-Fi (WiFi802.11b/G/N 2.4G/5.8g) +Bluetooth+4G+3G+2G
Ports	Two USB 2.0 Type C ports
Display	5 Inch HD TFT Screen with HDMI port.
LED	Power & Status LED
Power	Type C USB Port ,5V DC
Battery	Battery 4000 mA
GSM	4G GSM Module
Usability	Palm Veins Identification, Authentication and Enrollment using ePalm technology

3D Images:

