M-ECO™

User Manual

V 2.0

M-ECO is an economical next generation biometric and credential reading identity platform that places the power of mobile authentication into the hands of users in the most demanding environments.

This rugged platform features a 5.5-inch display, a 2.0GHz quad-core Single Board Computer (SBC) with 4GB-RAM/16GB-eMMC and a stronger mechanical enclosure that all work together to achieve MIL-STD-810H (formerly 810G) United States Military Standard. M-ECO's FAP-20 fingerprint sensor, dual interface smartcard reader and 5MP optical camera seamlessly support all enrollment and verification applications.

Technical Specification

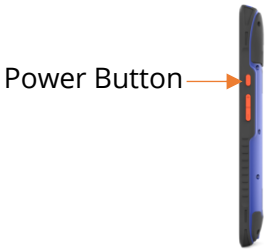
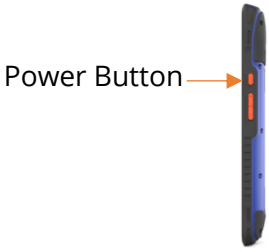
High Performance computational system	- Mediatek Helio A22 MT6761 SoC Quad Core A53 @2.0GHz
OPEN yet Secure Operating System and Multi-Application Architecture	- Google Certified Android Operating System (Android 11), - Java SDK for biometric and credential (SmartCard) functionality - Over-The-Air (OTA) updates for OS and SDK
High-Speed and Secure Memory	- Onboard storage: 16GB eMMC - External SD Card slot: up to 128 GB SD Card (purchased separately) supported - RAM: 4GB LPDDR4
Multiple Connectivity	- Wi-Fi: 8.11a/b/g/n/ac 2.4 + 5GHz - Bluetooth: 5.0 BR/EDR/LE (Compatible with Bluetooth 1.x, 2.x, 3.x & 4.0) - 3G-WCDMA: B1/2100;B2/1900;B5/850;B8/900 - 3G: TD/SCDMA:B34/B39 - LTE: o USA: B2, B4, B5, B13, B17 o EU: B1, B3, B20 o Africa/South East Asia : B1, B2, B5, B8, B19. - Dual SIM - GPS: Standalone multi-GNSS engine with active antenna
Touchscreen Display	- Size: 5.5-inch diagonal - Resolution: 720x1280 Pixels - Type: Capacitive multi-touch panel
Integrated enrollment grade FAP 20 FBI and FIPS 201 PIV certified fingerprint sensor	- Type: Thermal-Capacitive - DPI: min 500dpi - Classification: FAP 20 - Certification: FBI and FIPS 201 PIV
Contact and Contactless Smart Card Reader	Contactless Interface: - Read/write mode supporting ISO/IEC 14443A/B MIFARE - Read/write mode supporting MIFARE Contact Interface: - Acceptor: Friction - Insert/remove cycles: 100,000 - Cards supported: ISO 7816 T=0, T=1
Integrated Camera	- Resolution: 5 Megapixel (optional upgrade to 13 Megapixel) - Autofocus: Continuous focus and Touch-to-focus - Flash: LED
Easy to Expand	- USB-C port with USB-On-The-Go (USB-OTG) support.
Fast Charge and Full Day Battery Life	- 6,400 mAh Li-Ion battery (largest in its class) - Fast charging with Certified worldwide fast charger included
Environmental conditions	- Working Termp.: -15℃~50℃ - Working Voltage: 5V~9V - IP Rating: IP65

	- Shock resistance: MIL-STD-810H (formerly 810G) compliant

M-ECO at a glance

Setting Up M-ECO

Basic M-ECO operation

To turn on M-ECO: Press and hold power button on the right side of M-ECO for two seconds. After a few seconds, the display will turn on. Your battery may require an initial charge. If so, plug the supplied USB cable into the power port on M-ECO's bottom side and the charger into a wall outlet.	
To turn off M-ECO: Press and hold the power button on the device's right side and then select the action you want to take - Power Off, Reboot, Sleep.	
To charge M-ECO: Plug the supplied USB cable into the power port on M-ECO bottom side and the charger into a wall outlet.	

To install SIM & SD Cards: To pop open the SIM tray, insert a paper clip or a SIM-eject tool into the hole beside the tray. Push in, towards the M-ECO. Place the new SIM card into the tray—it will fit only one way, because of the notch. Then insert the tray into the device completely and in the same orientation that you removed it. The tray also fits only one way.	

Warning: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- ☐ **Reorient or relocate the receiving antenna.**
- ☐ **Increase the separation between the equipment and receiver.**
- ☐ **Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.**
- ☐ **Consult the dealer or an experienced radio/TV technician for help.**

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) this device may not cause harmful interference, and

(2) this device must accept any interference received, including interference that may cause undesired operation.

Shielded cables must be used with this unit to ensure compliance with the Class B FCC limits.

Specific Absorption Rate (SAR) information

The SAR limit of USA (FCC) is 1.6 W/kg averaged over one gram of tissue. This model (FCC ID: 2AMBZ-CE1-16-4G-11) has also been tested against this SAR limited. The highest SAR value reported under this standard during product certification for use at the ear is 0.42 W/kg and body is 1.28 W/kg.

The use of belt clips, holsters and similar accessories should not contain metallic components in its assembly.

The device for operation in the band 5150–5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems