



# ALR-H450

## ANDROID CONNECTED HANDHELD RFID READER

The Alien Technology® commercial class ALR-H450 “connected” **Android** handheld readers enables users to deploy manageable, robust, best-in-class EPC Gen 2 RFID solutions for supply chain, manufacturing, and asset management applications.

### FEATURES

- QWERTY keyboard, rugged yet lightweight for ease of use
- **Ergonomic** design provides superior user comfort and use
- “**Connected**” via the full set of wireless networking
- IP64 sealing for dust and water resistance
- **Prolonged usage** capabilities provided by a 3,200 mAh main lithium polymer main battery pack and 5,200 mAh gun handle battery
- Android 4.4 (Kit Kat)

Benefit	Enabled By:	What does this mean to me?
Ease of Use	<ul style="list-style-type: none"><li>• <b>Full</b> QWERTY keyboard</li><li>• <b>Dual</b> high-power lithium-polymer batteries</li><li>• Open source Android software development</li></ul>	<ul style="list-style-type: none"><li>• Simplifies data input</li><li>• All day usage without recharging</li><li>• Easy to provide custom apps</li></ul>
High Performance	<ul style="list-style-type: none"><li>• <b>Unique high-performance, high gain antenna (unusual for a handheld)</b></li><li>• Quad-core 1.3GHz CPU's</li></ul>	<ul style="list-style-type: none"><li>• Reads tags further than most handheld RFID solutions</li><li>• Reads and processes those tags faster</li><li>• Runs Android apps faster</li></ul>
A fully “connected” handheld	<ul style="list-style-type: none"><li>• WiFi 802.11 <b>b/g/n</b></li><li>• 3G cellular built in</li><li>• Bluetooth 4.0</li></ul>	<ul style="list-style-type: none"><li>• Wireless simplicity</li><li>• Always connected</li><li>• Allows connection to corporate networks</li></ul>



### Robust Compact/Connected Android Based Handheld

This feature-rich reader is packaged in a compact ergonomic footprint, yet comes with a full QWERTY keyboard for on-the-go data-entry and while displaying results on the large 4” WVGA crisp touch panel display.

The solution provides an easy-to-integrate, easy-to-manage package in an open source Android environment.

A number of techniques including shock-resistance rubber seals are used to ensure durability resulting in an IP64 water/dust proof rating and a 1.0m/ 3ft drop qualification.

### High Performance Antenna

The ALR-H450 delivers exceptional performance with best-in-class receive sensitivity and enhanced interference rejection enabled partly by an unusually high performance 4dBic antenna.



## Android Connected Handheld RFID Reader

High Performance, Easy to Use, Easy to Manage, Easy to Deploy

The ALR-H450 comes well featured including 2D bar code capability and WiFi connectivity to your corporate network. A memory expansion slot is standard for flexibility for additional local storage.

Standard features include:

- 1D and 2D bar code reader
- Bluetooth/WiFi
- GPS (for location aware applications)
- 3G cellular connectivity for use beyond corporate WiFi areas
- 1/2 Watt speaker
- Microphone
- Light sensors, proximity sensors and G-sensors
- Micro-SD expansion slot

All units are offered in regional frequency options including "US," "Europe," "China" and others

Baseline Specification	ALR-H450
RFID Reader	EPC C1 GEN2 / ISO18000-6C
RFID Power	1W (+5dBm to +30dBm)
Antenna	1diL / 4 dBic (Circular)
Scanner	2-D bar code (1280 x 960 pixels)
WLAN	Wireless WLAN 802.11 b/g/n
WWAN	WCDMA/HSDPA (850/1900/2100MHz) GSM/GPRS/EDGE (850/900/1800/1900MHz) 1 PSAM + 1 SIM
WPAN	Bluetooth v2.1+EDR, v3.0+HS and v4.0
Location Services	GPS (embedded A-GPS)
Communications	Micro USB
Operating System	Android 4.4.2 (Kitkat)
Display	4" TFT-LCD touch screen with backlight, 16.7M colors, 480 x 800 (WVGA)
CPU	Cortex-A7 1.3GHz quad-core
Memory	1GB RAM / 4GB Flash
Memory Expansion	MicroSD (32GB Max)
Battery (lithium polymer)	Main 3.7V, 3200 mAh Gun 3.7V, 5200 mAh
Expansion Slot	1 Micro SD slot, 1 SIM slot, 1 PSAM slot



Physical Characteristics	
Ingress Protection	IP64
ESD	Contact $\pm$ 4KV / $\pm$ Air 8KV
Humidity	0-95% at 40°C / 104°F
Operating Temp	-10°C to 50°C / 14°F to 122°F
Storage Temp	-40°C to 70°C / -40°F to 158°F
Weight	371 g / 13.1 oz (no batteries) 448 g / 15.8 oz (with main battery) 623 g / 22.0 oz (with gun handle and all batteries)
Dimensions without gun handle	7.28" (L) x 3.35" (W) x 4.13" (H) 185 mm (L) x 85 mm (W) x 105 mm (H)
Drop	1 meter / 3.28 feet

Model Number	Countries	Frequency	Transmit Channels	Channel Spacing	RF Power	Compliance Certification
ALR-H450	USA, Canada, Mexico	902 - 928 MHz	50	500 KHz	1 Watt	Emissions: FCC Part 15 Safety: cTUVus tested to: CAN/CSA-C22.2 No.60950-1-03, and UL 60950-1:2007 specifications IEC 60950-1 and EN60950-1, IFETEL
ALR-H450-EMA	Europe	865.6 - 867.6 MHz	4	600 KHz	1 Watt	Emissions: ETSI EN 302-208-2 (4 channel plan), EN 301-489. Safety: EN 60950, EN 50364
ALR-450-CHN	China	920.5 - 924.5 MHz	16	250 KHz	1 Watt	Emissions: CMII Safety: IEC 60950-1:2005 2nd edition & CCC
ALR-H450-BRA	Brazil	902 - 907.5 MHz & 915 - 928 MHz	35	500 KHz	1.3 watts EIRP	Emissions: Agência Nacional de Telecomunicações - ANATEL Safety: UL Brazil



## Android Connected Handheld RFID Reader

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Accessories Included	
Ordering Information	Description
ALX-520	ALR-H450 Pistol Grip
ALX-521	ALR-H450 Pistol Grip Battery
ALX-522	ALR-H450 Flat Main Body Battery
ALX-523	ALR-H450 Break-out Connector
ALX-524	ALR-H450 Dock
ALX-525	ALR-H450 USB Cable
ALX-526-1	ALR-H450 Power Adapter US (In US kit ALR-H450 only)
ALX-526-2	ALR-H450 Power Adapter Europe (In Europe kit ALR-H450-EMA only)
ALX-526-3	ALR-H450 Power Adapter China (In China kit ALR-H450-CHN only)



ALX-520



ALX-521



ALX-522



ALX-523



ALX-524



ALX-525



ALX-526

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HANDLING PRECAUTIONS Observe standard handling practices to minimize ESD.

DISCLAIMER Application recommendations are guidelines only - actual results may vary and should be confirmed. This is a general purpose product not designed or intended for any specific application.

This product is covered by one or more of the following U.S. patents: 7716208, 7716160, 7688206, 7671720, 7659822, 7619531, 7615479, 7598867, 7580378, 7576656, 7562083, 7561221, 7559486, 7559131, 7554451, 7411503, 7385284, 7377445, 7364084, 7353598, 7342460, 7324061, 7321159, 7301458, 7295114, 7288432, 7265675, 7262686, 7215249, 7214569, 7199527, 7193504, 7173528, 7172910, 7172789, 7141176, 7113250, 7101502, 7080444, 7070851, 7068224, 7046328, 6998644, 6988667, 6985361, 6980184, 6970219, 6952157. Other patents pending.

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