

UHF | RAIN - Handheld Reader **CHAINWAY - MC51 UHF**

- RAIN RFID (UHF EPC Class1 Gen2, ISO 18000-63) compliant
- Android 14 OS
- 5G, WiFi 6E, Bluetooth 5.2, GPS
- Up to 4m reading range
- IP67 protection



UHF | RAIN - Handheld Reader Android 14 - Operating System

The CHAINWAY MC51 built-in UHF | RAIN - RFID handheld reader delivers unmatched user experience to the frontline of Auto-ID applications. This RFID mobile enterprise device is equipped with an Android 14 operating system and the latest 5G high-performance technology

The RFID handheld reader integrates a self-developed UHF | RAIN - RFID module based on the Impinj E510 chip and supports Impinj Gen2X, delivering superior reading capabilities.

Built with advanced technology, it features a powerful processor, a 6-inch HD display, and exceptional 5G and Wi-Fi 6E connectivity, providing frontline workers with a high-performance Android 14 solution.

The UHF | RAIN - RFID handheld reader is everything your operators want. It's easy and intuitive design a wide variety of data collection options, including barcode scanning, RFID, and NFC, making it ideal for retail, industry, maintenance, power inspections, fixed asset management, and the defense industry.

Common Applications

- Inventory Control
- Asset Tracking
- Predictive Maintenance
- Industrial Automation
- Defence Industry

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MC51 Built-in RFID Reader

TECHNICAL SPECIFICATIONS

UHF RAIN	
Engine	CM-5N module based on Impinj E510
Operating Frequency	865-868 MHz / 920-925 MHz / 902-928 MHz
Supported Standards	EPC C1 GEN2 / ISO18000-6C
RF Power	1W (30dBm, +5dBm to +30dBm adjustable) 2W Optional (33dBm, for Latin America, etc.)
Antenna Gain	+5dBm to +30dBm adjustable
Antenna Type	Circular polarized antenna
Max. Read Range	4 Meter

Communication

WLAN	Support 802.11 a/b/g/n/ac/ax-6E, 2.4G/5G dual-band, IPV4, IPV6; 2*2 MIMO antennas
	Fast roaming: PMKID caching, 802.11r, OKC
	Operating Channels: 2.4G (channel 1~13), 5G (channel 36, 40, 44, 48, 52, 56, 60, 64, 100, 104, 108, 112, 116, 120, 124, 128, 132, 136, 140, 144, 149, 153, 157, 161, 165), Depends on local regulations
	Security and Encryption: WEP, WPA/WPA2-PSK(TKIP and AES), WAPI-PSK-EAP-TTLS, EAP-TLS, PEAP-MSCHAPv2, PEAP-LTS, PEAP-GTC, WPA3-Enterprise, WPA3-Enhanced Open, WPA3 Easy Connect, WPA3-Personal, etc.
WWAN (Europe, Asia)	2G: GSM / EDGE / GPRS (850/900/1800)
	3G: WCDMA (B2/B4/B5)
	4G: FDD-LTE B2/B4/B5/B7/B12/B13/B25/B26/B28; TDD-LTE B38/B41;
	5G: N2/N3/N5/N7/N12/N13/N25/N26/N28/N38/N41/N77/N78
Vo-LTE	Support Vo-LTE HD video voice call
Bluetooth	Bluetooth 5.2
GNSS	GPS/AGPS, GLONASS, BeiDou, Galileo, internal antenna

Camera

Rear Camera	16MP Autofocus with flash
Front Camera	5MP

Barcode Scanning (Optional)

2D Scanner	Zebra: SE4710; SE5500; CM60
1D Symbologies	UPC/EAN, Code128, Code39, Code93, Code11, Interleaved 2 of 5, Discrete 2 of 5, Chinese 2 of 5, Codabar, MSI, RSS, etc.
2D Symbologies	PDF417, MicroPDF417, Composite, RSS, TLC-39, Datamatrix, QR code, Micro QR code, Aztec, MaxiCode; Postal Codes: US PostNet, US Planet, UK Postal, Australian Postal, Japan Postal, Dutch Postal (KIX),etc.

Physical Characteristics

Dimension	161.0 x 77.8 x 15.5mm (Thickest Part: 29.2mm)
Weight	323 g (device with battery)
Keypad	Power key, 2 scan keys, volume (+/-) keys, 1 multifunctional key
Battery	5000mAh removable main battery, support QC3.0 and RTC; Support Battery Management System; Hot swap battery backup
Display	6-inch high definition display (18:9), 1440 x 720
Touch Panel	Corning Gorilla Glass, multi-touch panel, gloves and wet hands supported
Sensor	G_sensor, proximity sensor, light sensor, geomagnetic sensor, gyroscope
Notification	Sound, LED indicator, vibrator
Audio	2 microphones, 1 for noise cancellation; 1 speaker; 1 receiver
Card slot	1 for SIM card, 1 for SIM or TF card, Supports eSIM (optional)
Interfaces	USB Type-C, USB 3.1, OTG

TECHNICAL SPECIFICATIONS

Performance Characteristics

CPU	Qualcomm Octa-core, 2.4GHz
RAM+ROM	UFS: 4GB + 64GB / 6GB + 128GB (optional) / 8GB + 128GB (optional) / 8GB + 256GB (optional)
Expansion	Supports up to 256GB TF card (Supports Extreme Micro SD Card 512GB)

User Environment

Operating Temp.	-20 °C to +50 °C
Storage Temp.	-40 °C to +70 °C
Humidity	5% RH - 95% RH (non condensing)
Drop Specification	Multiple 1.5 m drops to concrete across the operating temperature range
Tumble Specification	1000 x 0.5m (falls at room temperature)
Sealing	IP67 per IEC sealing specifications
ESD	±15 KV air discharge, ±8 KV conductive discharge

Drivers & Support

Operating System	Android 14
SDK	Chainway Software Development Kit
Language	Java
Tool	Eclipse / Android Studio

Part No. / Model

TBA	MC51 UHF
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