CHAINWAY®

techsigno
SMART & GREEN



MC51

Handheld RFID Reader

5G | Android 14 | Wi-Fi 6E | Bluetooth 5.2 | UHF | 1D Barcode | 2D Barcode | NFC | Camera | GNSS

The Chainway MC51 handheld RFID reader is our latest 5G high-performance large-screen RFID handheld terminal, featuring a detachable pistol-grip design for easy attachment and removal. Integrated with our proprietary UHF module based on the Impinj E Series chips and supporting Impinj Gen2X, it ensures outstanding RFID reading capabilities for various applications. Built with cutting-edge technology, the MC51 boasts a powerful processor, 6-inch HD display, and advanced 5G & Wi-Fi 6E connectivity, delivering superior mobile performance for frontline workers. Equipped with barcode scanning, RFID, NFC, and other data collection functions, it is widely applicable in apparel retail, warehouse inventory, document management, and asset tracking.



Specification

Physical Characteristics

Dimensions	165.0 x 83.8 x 138.0mm / 6.50 x 3.30 x 5.43 in.
Weight	707g / 24.94oz. (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

Performance

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

Developing Environment

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

User Environment

Operating Temp.	-4°F to 122°F / -20°C to +50°C
Storage Temp.	-40°F to 158°F / -40°C to +70°C
Humidity	5% RH - 95% RH non condensing
Drop Specification	Multiple 1.5m / 4.92ft. drops to the concrete across the operating temperature range
	MIL-STD-810H (SGS Test): Multiple 1.5 m/4.92 ft. drops to concrete across the operating temperature range
Tumble Specification	1000 x 0.5m / 1.64ft. falls at room temperature
Sealing	Host IP67 per IEC sealing specifications
ESD	±15 KV air discharge, ±8 KV conductive discharge

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 (America)	2G: GSM/EDGE/GPRS(850/1900)
	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
WWAN (Europe, Asia)	2G: GSM / EDGE / GPRS (850/900/1800)
	3G: WCDMA (B1/B5/B8)
	4G: FDD-LTE (B1/B3/B5/B7/B8/B20/B28A/B28B) TDD-LTE (B34/B38/B39/B40/B41)
	5G: N1/N3/N5/N7/N8/N20/N28/N38/N40/N41/N77/N78/N79
Vo-LTE	Support Vo-LTE HD video voice call
Bluetooth	Bluetooth 5.2
GNSS	GPS/AGPS, GLONASS, BeiDou, Galileo, internal antenna

Data Collection

Camera

Rear Camera	16MP Autofocus with flash
Front Camera	5MP

NFC

Frequency	13.56 MHz
Protocol	ISO14443A/B, ISO15693, NFC-IP1, NFC-IP2, etc.
Chips	M1 card (S50, S70), CPU card, NFC tags, etc.
Range	2-4 cm

UHF RFID

Engine	Based on Impinj E Series chips
Frequency	865-868 MHz / 920-925 MHz / 902-928 MHz
Impinj Gen2X	Supported
Protocol	EPC C1 GEN2 / ISO18000-6C
Antenna	Circular Polarized Antenna
Power	1W (30dBm, +5dBm to +30dBm adjustable)
	2W Optional (33dBm, for Latin America, etc.)
Max Read Range	26m (Impinj MR6 tag, size 70 x 15mm) 28m (Impinj M750 tag, size 70 x 15mm) 30m (Alien H3 Anti-Metal tag, size 130 x 42mm)
Fastest Read Rate	1300+ tags/sec (Circular Polarized)
Communication Mode	Pin Connector

* Ranges are measured in the open outdoors and low interference environment, and rate is measured in a laboratory low interference environment, they are affected by tags and environment.

Barcode Scanning (Optional)

2D Scanner	Zebra: SE4710; SE55; 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.

Optional Accessories

USB Cable, Adapter, Charging Cradle, Rugged Rubber Boot, etc.

*See details in accessory guide

Notice: Product specifications are subject to change without prior notice. / Model: MC51 UHF/ Update Date: 2025-10-21

techsigno
SMART & GREEN
Address: Via dei Boschi, 2/13, 33040 Pradamano (UD), Italy
Tel. +39 0432 603604 email: sales@chainway-italy.com web: https:// www.chainway-italy.com