CHAINWAY®

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SMART & GREEN



MC51

Built-in RFID Reader

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

The Chainway MC51 built-in RFID reader is our latest 5G high-performance, large-screen handheld terminal. It integrates a self-developed UHF module based on the Impinj E Series chips 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 mobile office solution. The device also supports multiple data collection functions, including barcode scanning, RFID, and NFC, making it ideal for retail, warehouse sorting, power inspections, fixed asset management, and other industrial applications.





Specification

Physical Characteristics

Dimensions	161.0 x 77.8 x 15.5mm (Thickest Part: 29.2mm) / 6.34 x 3.06 x 0.61 in (Thickest Part: 1.15 in.)
Weight	323g / 11.39oz. (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	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

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	+5dBm to +30dBm adjustable
Fastest Read Rate	750+ tags/sec
Max Read Range	5m

* 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.
* Built-in UHF version does not support pistol

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, etc.

*See details in accessory guide

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