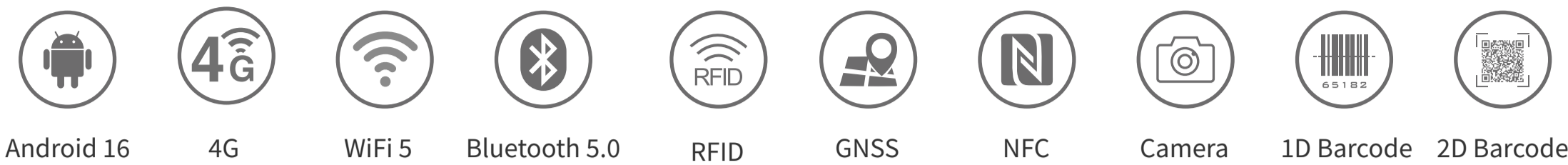


MC51S Mobile Computer



Advanced Configuration, Superior Performance, Stable Wireless, Efficient Experience

The Chainway MC51S is a new-generation 4G large-screen mobile computer designed for frontline efficiency. It combines powerful computing performance, high-speed wireless connectivity, and versatile data capture in one device. Equipped with a high-performance processor and a 6-inch HD display (optional FHD), the MC51S supports 4G, Wi-Fi 5 (optional Wi-Fi 6), and Bluetooth 5.0, ensuring stable network performance even in demanding environments. The device supports an optional UHF handle, featuring a self-developed UHF module based on Impinj chips with full Impinj Gen2X protocol support. The MC51S also supports barcode scanning and NFC, making it ideal for retail, warehousing, utilities, and asset management.



Stable Wireless Connectivity Experience

The MC51S features advanced 4G, Wi-Fi 5 (optional Wi-Fi 6), and Bluetooth 5.0 technologies, delivering fast, stable, and intelligent wireless connectivity. It ensures higher transmission speed and lower latency while maintaining reliable connections in dense or high-interference environments, effectively preventing disconnections and lag. The device also supports fast, seamless Wi-Fi roaming, ensuring uninterrupted and efficient communication even during cross-zone mobile operations.

Rugged Design For Harsh Environments

The MC51S is engineered for industrial durability, ensuring reliable operation in harsh environments. It passes MIL-STD-810H drop tests from 1.5 m, protecting against everyday impacts. With an IP67 rating for dust and water resistance, the device ensures reliable performance in outdoor inspections, warehousing, and industrial operations.

Flagship Performance With Long-term Support

The MC51S is powered by the Qualcomm 4G IoT long-lifecycle platform, featuring a 2.4GHz processor with an optional 2.8GHz version for enhanced performance. Running Android 16 and certified by Google AER, it delivers enterprise-grade security, compatibility, and stability, with long-term OS maintenance and updates. The device comes standard with 4GB RAM + 64GB ROM and offers an optional 8GB + 256GB configuration to accommodate different performance and storage requirements.

6" HD Display, Durable & Multi-Touch

The MC51S comes with a 6" HD display (1440×720) and an optional FHD (2160×1080) version for clearer, sharper visuals. Built with Corning® Gorilla® Glass 3, it offers strong scratch and impact resistance. The screen supports multi-touch, wet-hand use, and glove operation, making it ideal for industrial and outdoor applications.

Large Battery, Fast Charge, Hot-Swap, Nonstop Work

The MC51S is equipped with a 5,000 mAh removable battery with QC3.0 fast charging. A backup cell enables hot-swap, ensuring uninterrupted operation. The integrated battery and cover design with slide latch allows quick, easy replacement. A built-in fuel gauge supports smart battery management, letting users monitor power and health status, plan charging or replacement, and extend battery life for reliable multi-shift performance.

Versatile Data Capture for Diverse Industries

The MC51S comes equipped with a 13MP (optional 16MP) rear camera with flash and a 5MP front camera, enabling precise capture of high-resolution images and clear documentation of on-site details. The built-in enterprise-grade scanning engine easily reads a wide range of 1D and 2D barcodes, including damaged and DPM codes, ensuring both speed and accuracy. NFC is provided as standard for short-range wireless applications, enhancing operational convenience. For industry-specific needs, the MC51S offers UHF RFID options that support bulk data capture, enabling more efficient data collection workflows.

Specification

Physical Characteristics

Dimensions	161.0 x 77.8 x 15.5mm / 6.34 x 3.06 x 0.61 in.
Weight	297g / 10.48oz. (device with battery)
Display	6" display, 1440×720; optional 2160×1080 FHD version
Touch Panel	Corning Gorilla Glass, multi-touch panel, gloves and wet hands supported
Battery	5000mAh removable main battery, support QC3.0 and RTC; Support Battery Management System; Hot-swap
Card slot	1 for SIM card, 1 for SIM or TF card; Supports eSIM (optional)
Interfaces	USB 3.0 Type-C with OTG and water-drop detection; Bottom contacts: 2-pin for charging; Rear contacts: 2-pin for handle button extension; 12-pin for optional expansion(optional)
Sensor	G-sensor, light sensor, proximity sensor, geomagnetic sensor (optional),gyro/accelerometer combo sensor(optional)
Notification	Sound, LED indicator, vibrator
Audio	2 microphones, 1 for noise cancellation; 1 speaker;
Keypad	1 Power key, 2 scan keys, 1 volume (+/-) keys, 1 multifunctional key

Performance

CPU	Octa-core 2.4 GHz; optional octa-core 2.8 GHz
RAM+ROM	UFS: 4GB + 64GB / 8GB + 256GB (optional)
Expansion	Supports up to 256GB TF card (Supports Extreme Micro SD Card 512GB)

Communication

WLAN	Supports 802.11 a/b/g/n/ac ; fast roaming supported; optional WI-FI 6
WWAN (Global)	2G: GSM/EDGE/GPRS(850/900/1800/1900)
	3G: WCDMA (B1/B2/B4/B5/B8)
	4G: LTE-FDD: B1/B2/B3/B4/B5/B7/B8/B12/B13/B17/B20 /B25/B26/B28A/B28B; LTE-TDD: B34/B38/B39/B40/B41;
Vo-LTE	Support Vo-LTE HD video voice call
Bluetooth	Bluetooth 5.0, headset support
GNSS	GPS, BeiDou, GLONASS, and Galileo; AGPS supported

Data Collection

Camera	
Rear Camera	13MP Autofocus with flash ; optional 16MP
Front Camera	5MP
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, JapanPostal, Dutch Postal (KIX), etc.
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

Developing Environment

Operating System	Android 16
SDK	Chainway Software Development Kit
Language	Java
Tool	Eclipse/Android Studio

Environmental

Operating Temperature	-4° F to 122° F (-20° C to 50° C)
Storage Temperature	-40°F to 158°F (-40°C to 70°C)
Humidity	5%RH - 95%RH non condensing
Drop Specification	Passed 1.5 m/4.92 ft. drop test to MIL-STD-810H standard
Tumble Specification	1000 x 0.5m / 1.64ft. falls , IEC compliant
Sealing	IP67 per IEC sealing specifications
ESD	±15 kV air discharge, ±8 kV contact discharge

Accessories

Standard	9V/2A power adapter, USB cable, wrist strap
Optional	Handle, charging cradle, holster, etc.

Extended Models

MC51S UHF RFID Reader



Specification(*Specifications not listed are the same as the standard MC51S)

Dimensions	165.0 x 83.8 x 138.0mm / 6.50 x 3.30 x 5.43 in.
Weight	707g / 24.94oz.(including handle, back clip, and battery)
Handle	Handle with removable 5,200 mAh battery
Interfaces	USB 3.0 Type-C with OTG and water-drop detection; Bottom contacts: 2-pin for charging; Rear contacts: 12-pin contacts for back clip UHF and battery charging

RFID UHF (back clip)

Engine	Based on Impinj E-Series chip
Frequency	865-868 MHz/920-925 MHz/902-928 MHz (custom-design for frequency band)
Impinj Gen2X	Supported
Protocol	EPC global Class 1 Gen 2/ISO18000-63 RFID
Transmit Power	1 – 30 dB, step 1 dB
Antenna	Circularly polarized antenna
Fastest Read Rate	1300+ tags/sec
Max Read Range	30 m+ (varies by tag)

* Read rates tested in low-interference lab; distances measured outdoors in open. Actual results may vary with environment and tags.

Notice: Product specifications are subject to change without prior notice. / Model: MC51S / Update Date: 2025-12-25

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