# MC9400/MC9450 Mobile Computer

## The next evolution in the ultra-rugged MC9000 Series — now with more power, advanced scanning and the fastest cellular and Wi-Fi connections — Wi-Fi 6E and 5G

Nearly five million MC9000 Series ultra-rugged mobile computers have helped streamline and error-proof processes in the toughest environments — from manufacturing and warehousing to ports, yards and retail stores. Introducing the next evolution in this highly successful handheld mobile computer family, the MC9400/MC9450. The standard, freezer and non-incendive models are loaded with all the latest mobile technologies. These devices are faster, ready to power the new generation of industrial applications. Scanning is easier with the world's greatest scanning range — from in-hand to over 100 ft./30.5 m away. And with Wi-Fi 6E and private and public 5G, you get the fastest wireless connections available today — plus the ability to easily and cost-effectively extend your wireless networks to the most expansive indoor and outdoor facilities.



## The latest in wireless connectivity

**Private and public 5G — new cost-effective wireless options**

These are the first gun-style devices to offer private and public 5G wireless data connectivity, bringing new affordable wireless networking options to expansive outdoor and indoor environments.[1] And with two SIM card options — nano SIM and eSim — you can support private and public 5G connections simultaneously for network redundancy or deploy different wireless networks in different areas of the business.

**Wi-Fi 6E – maximum speed and performance, indoors and outside**

Get the fastest Wi-Fi connections available, Wi-Fi 6E.[2]

With quadruple the bandwidth and capacity, triple the speed and up to triple the available spectrum, your workers get dependable and instant application response times, increasing productivity and workflow efficiency.[3]

**Advanced Bluetooth connectivity**

Compared to Bluetooth 5.2, Bluetooth 5.3 increases energy efficiency for improved battery life; minimizes device interference for more reliable and higher quality connections, and enables more secure connections through enhanced security features.

## Best-in-class data capture and communication options

**The latest in advanced scanning technology**

Give your workers an unmatched scanning range with the new SE58 Extended Range Scan Engine with IntelliFocus™ technology. Scan barcodes in hand to over 100 ft./30.5 m away[4] — substantially farther than any scanner on the market. And the innovative green laser aimer is up to seven times more visible than the typical red aimer dot, making it easy to scan items on top warehouse racks.

**Biometric facial recognition**

Workers get easy device access, while you get the peace of mind that device access is restricted to pre-authorized users only, eliminating the risk of shared or compromised passwords.

**The MC9400/MC9450 — the next evolution of ultra-rugged industrial mobile computers for the new generation of industrial mobility.**

For more information, please visit www.zebra.com/mc9400-mc9450

**Unmatched camera technology**
The high-resolution front-facing camera is ideal for video-based collaboration. And the highest resolution rear camera in the class with HDR provides highly detailed photos, ideal for documenting incoming damaged shipments, quality checks and more.

**Process automation made easy with OCR Wedge**
Capture shipping container identification numbers, tire identification numbers (TINs), vehicle identification numbers (VINs) and more with the press of one button — ideal in manufacturing plants, yards, ports and depots.[5]

**Choose from seven keypads to best match your data types**
Select the keypad that will make data entry as easy as possible for your workers. And swap keypads on site to accommodate new data types or re-purpose devices in different areas of the business — without a trip to the service depot.

**Enable push-to-talk and secure text messaging**
Connect your workforce with push-to-talk and text to enable instant collaboration and communications. The speaker, microphone, PTT voice internal speaker and Bluetooth wireless headset deliver quality audio on every PTT call.[6] And you can share files and images on an individual or group chat.

## Faster, more rugged and more flexible

**The power to handle all your applications — simultaneously**
Voice and line of business apps, simple 'green screen' legacy apps, apps powered by augmented reality and artificial intelligence — no matter how many applications workers need to use, the MC9400/MC9450 can power them, all at once. Take application performance to the next level. Compared to the MC9300, the new Qualcomm platform delivers 2.5x more processing power, 50 percent more RAM, four times the Flash and eight times micro SD storage.

**No more lost devices**
With the new BLE battery and Mobility DNA's Device Tracker, you can easily find devices — even if they are turned off or low in power.[7]

**Three models for the most challenging environments**
There's a model for every environment — standard, freezer and non-incendive. The freezer model includes a heated touch panel and scanner exit window, plus a freezer-rated battery. And the Class 1 Div 2 non-incendive model[8] enables mobile computing in areas where hazardous materials are present — such as flammable gases and materials.

**Full backwards accessory compatibility for cost-effective upgrades**
Upgrade to MC9400/MC9450 to put the advantages of the latest mobile features to work in your enterprise, while preserving your entire investment in MC9300 accessories. And you can also utilize MC9200 and older charging accessories with an adapter.

**Advanced display technology for industrial environments**
The large 4.3 in. display is easy to see indoors and outside, works when wet and is easy to use — even with thick gloves.

**Rugged and ready for just about anything**
The MC9400 and MC9450 are designed for your toughest environments. Muddy? Just hose it off. Submerged in water? No worries, it's waterproof. With Zebra's toughest drop and tumble testing, these devices have what it takes to handle the inevitable everyday drops on concrete in ports, yards, manufacturing plants and more. And two of the most vulnerable features are protected with Corning Gorilla Glass for maximum scratch- and shatter-resistance — the display and scanner window.

**Android — enhanced with features for the enterprise**
You get built in support through Android 17, with security updates to protect devices and their data. Easily deploy 'zero touch' updates on your schedule, automatically.[9] Control which GMS services are available on your devices to increase security and privacy.[10] And over 100 features can be added to improve security, data capture support, wireless connectivity and device manageability.[11]

**PowerPrecision+ advanced battery technology**
PowerPrecision+ batteries are designed and manufactured to deliver superior performance, reliability and safety. Visibility into real-time battery statistics makes it easy to spot and replace batteries that can no longer hold a full charge, protecting productivity. Batteries are always ready to go with fast charging. Change batteries on the fly without losing any data with hot swap support. And drop and tumble testing is performed with the battery inserted, ensuring that your batteries are as rugged as your devices.

**Get your legacy apps up and running instantly**
Run 'green screen' apps right out of the box with pre-loaded and pre-licensed Ivanti All-Touch TE — no licenses to purchase, backend system changes or user training required.

**Mobility DNA**
Simplify every aspect of owning Zebra mobile devices with Mobility DNA, a comprehensive collection of applications that contain many no-cost tools. Make device management easier for IT personnel. Give workers time-saving features that improve productivity and workflow efficiency by making Zebra devices even easier to use.

# Specifications

## Physical Characteristics

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|---|---|
| Dimensions | 9.4 in. L x 3.5 in. W x 7.4 in. H<br>240 mm L x 88 mm W x 189 mm H |
| Weight | 26.2 oz./743 g with battery |
| Display | 4.3 in. WVGA; 800 x 480 pixels; color display |
| Imager Window | Corning® Gorilla® Glass |
| Touch Panel | Dual mode capacitive touch with finger, gloved finger or stylus input (conductive stylus sold separately); screen protector (sold separately); Corning Gorilla Glass with air gap (standard model) or optically bonded (freezer model) |
| Power | Rechargeable Li-Ion: 3.6V, 7000mAh (25.20 Wh); Optional BLE Battery Li-Ion 3.6V, 7000mAh (25.20 Wh); Optional Freezer Capacity battery — 5000mAh (18.80 Wh); Optional 7000mAh (25.20 Wh) Non-Incendive battery; Hot swap battery backup with temporary session persistence |
| Expansion Slot | MicroSD supports up to 2 TB |
| SIM | MC9450 only: 1 nano SIM; 1 eSIM |
| Network Connections | MC9400/MC9450: WLAN, WPAN (Bluetooth), USB 2.0, High Speed (host and client); MC9450 only: WWAN 5G; data only |
| Notifications | Audible tone; multi-color LED; haptic feedback |
| Keypad | Backlit, field replaceable keypads; 58 Key AlphaNumeric, 53 Key AlphaNumeric STD, 53 Key Terminal Emulation (5250 and VT), 43 Key/34 Key Numeric/Function, 29 Key Numeric/Calculation |
| Voice and Audio | Speaker, microphone, PTT voice (internal speaker and Bluetooth wireless headset support) |
| Buttons | Trigger scan button; keypad scan button |
| Interface Ports | USB 2.0 (bottom pogo connector) — high speed (host and client) |

## Performance Characteristics

| | |
|---|---|
| CPU | Qualcomm 4490 octa-core; 2.4 GHz |
| Operating System | Upgradeable to Android 17 |
| Memory | 6 GB RAM/128 GB Flash |
| Security | FIPS 140-2 Validated; supports Secure Boot and Verified Boot |

## User Environment

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|---|---|
| Operating Temperature | Standard: -4°F to 122°F/-20°C to +50°C, Freezer: -22°F to 122°F/-30°C to +50°C |
| Storage Temperature | -40°F to 158°F/-40°C to 70°C |
| Humidity | Standard: 5%-95% non-condensing; Freezer: 5%-95% condensing (condensation resistant model with heaters for scanner exit window and touch panel glass) |
| Drop Specification | Exceeds per MIL-STD-810H: 12 ft./3.65 m to concrete; Enterprise drop standard 8 ft. (2.4 m) to concrete across temperature (-20°C to |

## Device Approvals, Certifications and Compliance

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|---|---|
| TAA compliant; ARCore Google certification[12]; Android Enterprise Recommended (AER) | |
| TAA (optional on select configurations) | Trade Agreement Act compliance optional on select configurations[12] |
| Non-incendive (NI)(optional on select configurations) | Class I,II, III Div 2; Gases: Class I, Groups A/B/C/D; Dusts: Class II, Groups F/G; Fibers/ Flyings: Class III; -20° C  Ta  50° C T6 |

## Data Capture

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|---|---|
| Scanning | SE58 1D/2D Extended Range Scan Engine with IntelliFocus™ technology with green laser aimer SE4770 1D/2D Scan Engine with red laser aimer |
| Camera | Front: 8 MP; Rear: 16 MP autofocus; flash LED generates balanced white light; supports Torch mode + HDR (standard) |
| NFC | ISO 14443 Type A and B; FeliCa and ISO 15693 cards |

## Wireless WAN Data Communications (MC9450 only)

| | |
|---|---|
| Radio Frequency Band | 3G NA: B2/4/5; RoW: 1/2/4/5/8<br>4G NA: B2/4/5/7/8/12/13/14/17/25/26/29/30/38/41/ 48/66/71;<br>RoW: B1/2/3/4/5/6/7/9/10/14/17/18/20/26/28/ 38/39/40/41/42/43/66/71<br>5G FR1 NA: n2/5/7/8/12/13/14/25/26/30/38/41 /48/66/71/77/78; RoW: n1/2/3/5/7/8/12/18/20/ 26/28/38/40/41/66/71/77/78; Gigabit LTE-A; 5G NR Sub-6 (NSA, SA); LTE/NR Carrier Aggregation; supports private networking (LTE/5G) |
| GPS | MC9450 only: GPS, GLONASS, Galileo, QZSS Dual-Band GNSS — Concurrent L1/G1/E1 (GPS/QZSS, GLO, GAL) + L5/E5a/BDSB2a (GPS/QZSS, GAL) a-GPS Supports XTRA |
| Multimedia | Wi-Fi Multimedia™ (WMM) and WMM-PS; Including TSPEC |
| VOIP Communications | Supports Workcloud Communication™ PTT Express and Workcloud Communication PTT Pro |

## Wireless LAN

| | |
|---|---|
| Radio | IEEE 802.11 a/b/g/n/ac/ax/d/h/i/r/k/v/w/mc; 2x2 MU-MIMO; Tri-band (2.4 GHz, 5 GHz, 6 GHz)2; Wi-Fi CERTIFIED 6™ (Wi-Fi 6E); Dual Band Simultaneous;<br>IPv4, IPv6 |
| Data Rates | 2.4 GHz: 802.11b/g/n/ax — 20 MHz - up to 286.8 Mbps; 5 GHz: 802.11a/n/ac/ax — 20 MHz, 40 MHz, 80 MHz, 160 MHz — up to 2402 Mbps; 6 GHz: 802.11ax — 20 MHz, 40 MHz, 80 MHz, 160MHz - up to 2402 Mbps |
| Fast Roam | 802.11r Fast BSS Transition; PMK Caching; Cisco CCKM; OKC |

# Markets and Applications

**Warehousing/Distribution**

- Picking
- Put-away
- Cross-docking
- Shipping
- Receiving
- Inventory control
- Reverse logistics
- Cold storage
- Non-incendive

**Manufacturing**

- Inventory management
- Put-away
- Line-side replenishment
- Work-in-Process (WIP)
- Material track and trace
- Quality control
- Safety testing

**Retail**

- Reverse logistics
- Price verification/updates
- Store receiving
- Online order fulfillment
- Backroom inventory management

**Ports and Yards**

- Asset management (rail cars, containers and cargo)
- Shipment tracking
- Yard management

## User Environment

| | |
|---|---|
| | 50°C) exceeding MIL-STD-810H<br>Freezer version: 7 ft. (2.1 m) to concrete (-30°C to 50°C) exceeding MIL-STD810H |
| Tumble Specification | 6,000 3.3 ft. (1m) tumbles; meets or exceeds IEC tumble specification |
| Sealing | IP65 and IP68 with battery per applicable IEC sealing specifications |
| Vibration | 4 g's PK Sine (5 Hz to 2 kHz); 0.04 g 2/Hz Random (20 Hz to 2 kHz); 60 minute duration per axis, 3 axis |
| Electrostatic Discharge (ESD) | +/- 15 kV air discharge; +/- 8 kV direct discharge; +/- 8 kV indirect discharge |

## Interactive Sensor Technology (IST)

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|---|---|
| Light Sensor | Automatically adjusts display backlight brightness |
| Magnetometer | eCompass automatically detects direction and orientation |
| Motion Sensor | 3-axis accelerometer with MEMS Gyro |

## Wireless LAN

| | |
|---|---|
| Operating Channels | Channel 1-13 (2401-2483 MHz): 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13; Channel 36-165 (5150-5850 MHz): 36, 40, 44, 48, 50, 52, 56, 60, 64, 100, 104, 108, 112, 114, 116, 120, 124, 128, 132, 136, 140, 144, 149, 153, 157, 161, 165; Channel 1-233 (5925-7125 MHz); Channel Bandwidth: 20, 40, 80, 160 MHz. Actual operating channels/frequencies and bandwidths depend on regulatory rules and certification agency. |
| Security and Encryption | WEP (40 or 104 bit); Enhanced Open (OWE); WPA/WPA2 Personal (TKIP and AES); WPA3 Personal (SAE); WPA/WPA2 Enterprise (TKIP and AES); WPA3 Enterprise (AES); EAP-TTLS (PAP, MSCHAP, MSCHAPv2), EAP-TLS, PEAPv0-MSCHAPv2, PEAPv1-EAP-GTC, LEAP, EAP-PWD; WPA3 Enterprise 192-bit mode (GCMP256) - EAP-TLS; MC9450 only: EAP-SIM, EAP-AKA, EAP-AKA Prime |
| Certifications | Wi-Fi Alliance Certifications: Wi-Fi CERTIFIED n; Wi-Fi CERTIFIED ac; Wi-Fi CERTIFIED 6 (Wi-Fi 6E); WPA2-Personal; WPA2-Enterprise; WPA3-Personal WPA3-Enterprise (includes 192-bit mode); Protected Management Frames: Wi-Fi Enhanced Open; WMM (Wi-Fi Multimedia); WMM-Power Save WMM-Admission Control; Voice-Enterprise: Wi-Fi Direct; Wi-Fi Agile Multiband; Wi-Fi QoS Management; Wi-Fi Optimized Connectivity; Passpoint |

## Wireless PAN

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|---|---|
| Bluetooth | Class 2, Bluetooth v5.3 and Secondary BLE for beaconing within BLE battery |

## Warranty

Subject to terms of Zebra's hardware warranty statement, the MC9400/MC9450 is warranted against defects in workmanship and materials for a period of 1 (one) year from the date of shipment. For complete warranty statement, please visit: www.zebra.com/warranty

## Environmental Compliance

RoHS Directive 2011/65/EU RoHS Amendment (EU) 2015/863 (EN IEC 63000:2018 Standard); For a complete list of product and materials compliance, please visit www.zebra.com/environment

## Recommended Services

Zebra OneCare™ Essential and Select support services; Zebra Visibility Services — VisibilityIQ™ Foresight; for information, www.zebra.com/services

## Footnotes

1. 5G is available on the MC9450; connections are data only;
2. For 6GHz: Wi-Fi 6E will be available in December 2023
3. 5G vs. Wi-Fi 6: a Powerful Combination for Wireless; Intel; www.intel.com/content/www/us/en/wireless-network/5g-technology/5g-vs-wifi.html
4. Printing resolution, contrast and ambient light dependent
5. Requires the one-time purchase of a license for each OCR Wedge data type
6. Requires a Workcloud Communication license
7. Requires the purchase of the optional BLE battery and Device Tracker licenses
8. Available in North America
9. Requires Zebra Zero Touch, a Mobility DNA tool; requires one-time purchase of device licenses
10. Requires Stage Now, an included Mobility DNA tool; GMS (Google Mobile Services) are not available on all models in all

## Footnotes

regions
11. Requires Mobility Extensions (Mx), an included Mobility DNA tool
12. Available Q1 2024

## Mobility DNA

Mobility DNA solutions add functionality and simplify deployment and management of our mobile devices. Features may vary by model and a support contract may be required. More information:
www.zebra.com/mobilitydna

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