# TC52/TC57 Series Touch Computer

## The ultimate in enterprise-class touch computing

The TC52/TC57 Touch Computers build on the highly successful TC51/TC56, adding a new platform and new capabilities to deliver the ultimate in enterprise-class touch computing. You get the ultimate user experience — the simplicity of Android with all the business features workers need to maximize productivity and minimize process cycle times. You get the ultimate technology advancements on a cutting edge platform, maximizing the benefits of mobility today, with the future proofing you need to serve your business tomorrow. You get the ultimate collection of value-add apps, Mobility DNA™, with four new complimentary solutions that deliver unparalleled functionality — including the best possible WiFi performance, centralized control of the device update process, control over access to Google Mobile Services (GMS) and more. And optional Visibility Services offer the ultimate in device management capabilities to maximize device value.




## The ultimate user experience

**Android for instant familiarity**
Your workers already know how to use an Android device, virtually eliminating training time and adoption curves. And you can deliver the highly-graphic interactive apps today's workers expect.

**Advanced touchscreen technology**
Give your workers touchscreen simplicity. The 5 in. display offers plenty of real estate for graphics-intensive intuitive applications.

The easy, familiar and flexible multi-touch operation works even when wet, with a gloved finger or a stylus. And with best-in-class outdoor readability, the screen is easy to read, even in bright sunlight.

**Easily capture it all — barcodes, labels and documents**
Advanced scanning technology and PRZM Intelligent Imaging deliver lightning fast capture of printed and electronic 1D and 2D barcodes, including Digimarc — regardless of condition. The expanded working range and wide field of view allow workers to scan barcodes nearer and farther away, while omnidirectional scanning delivers true point and shoot performance — no need to ever align the device with the barcode.

**Full shift power your workers can count on**
The PowerPrecision+ high capacity battery delivers up to an impressive 14 hours of power[1] — plenty for the longest shift. With Warm Swap mode, swapping batteries is fast and easy — there's no need to turn off the device or close active apps. And with fast charging, batteries are fully charged and ready to go in record time.

## All the latest technology advancements

**Rugged and ready for the toughest business day**
While these touch computers look like smartphones, the similarities stop there — they are engineered for the enterprise, inside and out. You can drop it in water or on concrete and use it in dusty areas, out in the rain or snow — and still expect reliable operation.

**The TC52/TC57 — The ultimate enterprise touch computer.**
For more information, visit www.zebra.com/tc52 and www.zebra.com/tc57

The unibody design provides extra impact protection for the sensitive electronics. And the Corning™ Gorilla™ Glass touch panel and imager window bring maximum scratch-resistance and shatter-proofing to two of the most vulnerable device features.

**A platform to handle all your apps — today and tomorrow**

The ultra-powerful processor provides superior performance on all voice and data apps. You also get built-in support for future versions of Android and future apps, such as artificial intelligence.

**Rich locationing support**

Easily implement locationing with support for many technologies, including Visible Light Communication (VLC), Bluetooth 5.0 BLE and WiFi, plus Zebra's SmartLens and MotionWorks solutions.

**Support for the latest WiFi enhancement improves WiFi range and speed — with less power**

2x2 Multiple-User Multiple Input Multiple Output (MU-MIMO) technology allows access points to communicate with multiple devices simultaneously via pinpoint beamforming, boosting WiFi network capacity, speed and range. And processing is shifted from the mobile device to the access point, extending battery cycle time.

**The highest quality voice in its class**

Three microphones, high-volume speakers and noise-cancellation technology work together to ensure that callers on both ends of every call can hear every word — even in the noisiest areas.

**New 5 MP front-facing camera supports more advanced apps**

With the new front-facing camera, you get built-in support for the latest positioning technology, Visible Light Communication (VLC) which allows you to track the location of shoppers and workers with compatible overhead LED lighting. Video calling improves service and productivity. Customers enjoy a more personal touch — and remote experts can see a repair in process to help onsite technicians resolve issues faster and increase first-time-fix rates.

**Complete cellular network flexibility with single device simplicity**

The TC57 provides all workers anywhere in the world with dependable cellular service. Support for carrier aggregation substantially improves application performance by increasing data capacity and speeds. It is certified on leading public safety networks, including AT&T FirstNet and Verizon, assuring responders have the connectivity they need even when networks are overloaded in crisis situations.

**Ultra high-resolution photos and videos**

The 13 MP color rear camera captures highly detailed photos and videos — ideal for proof-of-condition/delivery/service, onsite technical support and more.

**Bluetooth 5.0 for twice the speed and four times the range — with less power**

Improved data speeds up to 2 Mbps increases application flexibility and performance for Bluetooth peripherals, such as printers and headsets, while Bluetooth Low Energy reduces power requirements to extend battery cycle times.

**Maximize productivity with enterprise accessories**

Unlike consumer smartphones, you get a full suite of backward compatible business-class accessories that make the TC52/TC57 easier to use and manage, from a snap-on trigger handle for easier scanning to unique ShareCradles that charge it all — devices and batteries.

## Drive workforce productivity, efficiency and device value to a new level with powerful new Mobility DNA apps

**WorryFree WiFi — dependably superior WiFi, delivered**

Provide every worker with the best possible WiFi connection, every minute of every shift. This free tool delivers near instant application response times, unmatched roaming performance, plus exceptional voice quality and network diagnostics - everything you need to leverage your WiFi network to increase workforce productivity and better serve customers.

**PowerPrecision Console — prevent aging batteries from reducing workforce productivity**

This free PC-based solution provides an easy-to-read dashboard that allows you to quickly identify and remove aging batteries from your battery pool — before they impact workforce productivity and mobile device uptime.

**End-to-end revolutionary control of the update process with LifeGuard**

Updating your enterprise-class Android mobile devices is often time-consuming, costly, complex and difficult to track. Now you can do it all with LifeGuard Analytics — free with your Zebra OneCare™ Support contract. View available updates along with priority and which devices are eligible for the update. Automatically update your devices over the air with the press of a button. And easily monitor and manage the status of updates in real time.

**End-to-end revolutionary control of the update process with LifeGuard**

Updating your enterprise-class Android mobile devices is often time-consuming, costly, complex and difficult to track. Now you can do it all with LifeGuard Analytics — free with your Zebra OneCare™ Support contract. View available updates along with priority and which devices are eligible for the update. Automatically update your devices over the air with the press of a button. And easily monitor and manage the status of updates in real time.

**Easily manage access to Google Mobile Services (GMS) with Restricted Mode**

StageNow's new Restricted Mode delivers an industry first — an easy way to simply click to deactivate Google Mobile Services (GMS) that come standard with the operating system — and reactivate should you need them down the road. StageNow is free and pre-loaded on every TC52/TC57.

## The ultimate in device management options

**Improve device value with Zebra's optional Visibility Services**

Get the device management data you need to take device uptime, operational efficiency and the return on investment to the next level. Asset Visibility Service (AVS) is an easy to use and deploy solution that doesn't require an Enterprise Mobility Management (EMM) system. Operational Visibility Services (OVS) is a comprehensive device management solution that leverages your EMM information to help get more value out of your Zebra mobile devices. These optional services can be added to your optional Zebra OneCare support contract.

# Specifications

## Physical Characteristics

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|---|---|
| Dimensions | 6.1 in. L x 2.9 in. W x 0.73 in. H<br>155 mm L x 75.5 mm W x 18.6 mm H |
| Weight | 8.8 oz./249 g with battery |
| Display | 5.0 in. High Definition (1280 x 720); exceptionally bright, outdoor viewable; optically bonded to touch panel |
| Imager Window | Corning Gorilla Glass |
| Touchpanel | Dual mode capacitive touch with stylus or bare or gloved fingertip input (conductive stylus sold separately); Corning Gorilla Glass; water droplet rejection; fingerprint resistant anti-smudge coating |
| Backlight | LED backlight |
| Power | Rechargeable Li-Ion, PowerPrecision+, > 15.48 Watt hours, > 4150 mAh, improved battery metrics for better battery management, fast charging (up to 2.4 A) |
| Expansion Slot | User accessible MicroSD up to 32GB SDHC and up to 256 GB SDXC |
| SIM Slots | TC57 only: 1 nano SIM; 1 eSIM |
| Network Connections | TC52/TC57: WLAN, WPAN (Bluetooth), USB 2.0, High Speed (Host and Client)<br>TC57 Only: WWAN |
| Notification | Audible tone; multi-color LEDs; vibration |
| Keypad | On-screen keypad and enterprise keyboard |
| Voice and Audio | Three microphones with noise cancellation; vibrate alert; Front facing speaker; Bluetooth wireless headset support; High quality speaker phone; PTT headset support; cellular circuit switch voice; HD Voice; and SWB & FB audio |
| Buttons | Six programmable buttons for maximum flexibility: Back button, dual dedicated scan buttons, dedicated push-to-talk button and volume up/down buttons |

## Performance Characteristics

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|---|---|
| CPU | Qualcomm Snapdragon™ 660 octa-core, 2.2 GHz |
| Operating System | TC52: Upgradeable to Android 14<br>TC57: Upgradeable to Android 14 |
| Memory | 4GB RAM/32GB Flash |

## User Environment

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| 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% to 95% non-condensing |
| Drop Specifications | Multiple 6 ft. drops to concrete with the rugged boot accessory per Mil STD 810 G; Multiple 4 ft/1.2m drops to tile over concrete -10°C to 50°C (14°F to 122°F) |
| Tumble Specification | 500 1.6 ft./0.5 m tumbles, meets or exceeds IEC tumble specification |
| Sealing | IP68 and IP65 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 |
| Thermal Shock | -40° F to 158° F/-40° C to 70° C rapid transition |
| Electrostatic Discharge (ESD) | +/- 15kv air discharge; +/- 8kv direct discharge;<br>+/- 8kv 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 |
| Pressure Sensor | Automatically detects altitude information for locating (TC57 only) |
| Proximity Sensor | Automatically detects when the user places the handset against head during a phone call to disable display output and touch input |

## Data Capture

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|---|---|
| Scanning | SE4710 imager (1D and 2D) with extraordinary range:<br>Scan range – Code 39 barcode:<br>20 Mil: 2.0 in. to 30.0 in./5.08 cm to 76.2 cm<br>4 Mil: 3.3 in. to 8.8 in./8.4 cm to 22.4 cm<br>Digimarc support |
| Camera | Front — 5 MP; f/2.0 aperture<br>Rear — 13 MP autofocus; f/2.2 aperture; flash LED generates balanced white light; supports Torch mode |
| NFC | ISO 14443 Type A and B; FeliCa and ISO 15693 cards; P2P mode and Card Emulation via Host.<br>TC57 Only: Card Emulation via Host and UICC |

## Wireless WAN Data and Voice Communications (TC57 Only)

| | |
|---|---|
| Radio Frequency Band | Supports VoLTE , Carrier Aggregation up to 3DL CA<br>AT&T FirstNet Ready certification<br>Verizon PNTM certification<br>LTE FDD:<br>700/800/850/900/1800/1900/AWS/2100/2600 (28,13,14,12,17/19,20/5,26/8/3/2,25/4,66/1/7); |

## Markets and Applications

**Retail Associates**

- Price/inventory checks
- Item locator
- Line busting/POS
- Assisted selling
- Electronic coupons
- Gift registry lookup

**Retail Managers**

- Workforce management
- Planogram management
- Merchandising

**Direct Store Delivery Drivers**

- Order automation
- Delivery tracking
- Inventory management

**Field Service Technicians**

- Invoicing
- Scheduling and location-based services

**Light Courier Drivers**

- Proof of delivery
- Asset management
- Location services
- Invoicing

**Government and Public Safety**

- eCitation
- Communication and collaboration
- Asset management

## Wireless WAN Data and Voice Communications (TC57 Only)

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|---|---|
| | LTE TDD: 1900/2300/2500 (39/40/41,38);<br>UMTS/HSPA/HSPA+: 850/900/AWS/1900/2100 (5/8/4/2/1);<br>GSM/GPRS/EDGE: 850/900/1800/1900 |
| GPS | TC57 only: Autonomous, Concurrent GPS; GLONASS; Gallileo; BeiDou, and A-GPS. Supports IZAT™ XTRA |
| Multimedia | Wi-Fi Multimedia™ (WMM) and WMM-PS; Including TSPEC |

## Wireless LAN

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| Radio | TC52: IEEE 802.11 a/b/g/n/ac/d/h/i/r/k/v3/w; Wi-Fi™<br>certified; IPv4, IPv6, 2x2 MU-MIMO<br>TC57: IEEE 802.11 a/b/g/n/ac/d/h/i/r/k/v3/w; Wi-Fi™<br>certified; IPv4, IPv6, 5GHz 2x2 MU-MIMO |
| Data Rates | 5GHz: 802.11a/n/ac — up to 866.7 Mbps<br>2.4GHz: 802.11b/g/n — up to 300 Mbps |
| Operating Channels | Channel 1-13 (2412-2472 MHz):<br>1,2,3,4,5,6,7,8,9,10,11,<br>12,13<br>Channel 36-165 (5180-5825 MHz):<br>36,40,44,48,52<br>56,60,64,100,104,108,112,116,120,124,128,132,136,140,<br>144,149,153,157,161,165<br>Channel Bandwidth: 20, 40, 80 MHz<br>Actual operating channels/ frequencies and bandwidths depend on regulatory rules and certification agency. |
| Security and Encryption | WEP (40 or 104 bit); WPA/WPA2 Personal (TKIP, and<br>AES); WPA/WPA2 Enterprise (TKIP and AES) — EAP-TTLS<br>(PAP, MSCHAP, MSCHAPv2), EAP-TLS, PEAPv0-MSCHAPv2, PEAPv1-EAP-GTC and LEAP.EAP-PWD |
| Certifications | WFA (802.11n, WMM-PS, 801.11ac, PMF) |
| Fast Roam | PMKID caching; Cisco CCKM; 802.11r; OKC |

## Wireless PAN

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| Bluetooth | Class 2, Bluetooth v5.0, Bluetooth Low Energy (BLE) |

## Warranty

Subject to the terms of Zebra's hardware warranty statement, the TC52/57 Series 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

## Recommended Services

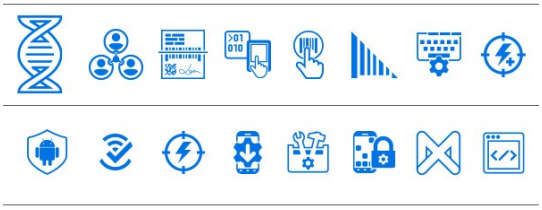
Zebra OneCare™ Essential and Select support services
Zebra Visibility Services – VisibilityIQ™ Foresight or Asset Visibility Service

## Footnotes

1. Based on typical user profiles
Specifications subject to change without notice.For details related to Common Criteria support, please visit: www.zebra.com/commoncriteria

## Mobility DNA Software

Mobility DNA solutions help you get more value out of our mobile computers by adding functionality as well as simplifying deployment and management of our mobile devices. For more information on these Zebra-only features, please visit www.zebra.com/mobilitydna Mobility DNA is available on Android only. Features may vary by model and a Support Contract may be required. To learn what solutions are supported, please visit: https://developer.zebra.com/mobilitydna



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