TC53/TC58 Mobile Computer

Powering a new generation of data collection

Introducing the TC53 and TC58, the first members of a new generation of Zebra mobile computers designed to do more. What makes these devices so different? New hardware redefines mobile computing performance. New solutions and sensor technologies redefine the world of possibilities — from mobile payment to parcel dimensioning. All the latest wireless technologies give workers faster and more reliable access to information they need to get the job done — including 5G, Wi-Fi 6E and CBRS (US only). A class-leading 6-inch screen lets workers see more, do more — and scroll less. Zebra-only Mobility DNA™ tools deliver built-in advantage, maximizing user productivity while minimizing IT complexities throughout the entire device lifecycle. New manufacturing technologies make the TC53 and TC58 thinner — yet even more rugged. The result? A new generation of data collection. A new level of operational efficiency. And a new level of workforce productivity. The TC53/TC58 — driving new possibilities into the world of mobility.

Industry-best innovations from the casing to the processor

Blazing speed
Get virtually instant response times in the most demanding applications with class-leading processing power, memory and storage — the next-generation Qualcomm™ 6490 octa-core processor, up to 8 GB of RAM and 128 GB of Flash, plus a 2 TB MicroSD card slot.

All the latest wireless connections
Give your workers the fastest speeds with Wi-Fi 6E and 5G. And support for CBRS private LTE networks enables cost-effective wireless connectivity in the largest indoor and outdoor facilities.

Industry-leading 6-inch advanced display
Get the largest, highest resolution and brightest display in this product class. Screens are easy to read indoors and outside. Edge-to-edge technology means more information and less scrolling. It works when wet. And workers can use a stylus or finger, with or without a glove — no need to change modes.

Thinner and tougher
An ergonomic design and advanced manufacturing and materials technology make the TC53 and TC58 thinner, yet rugged.

Unmatched battery technology
Get full shift power and the intelligence to better manage batteries with Zebra's PowerPrecision+ standard 4680 mAh and extended 7000 mAh batteries.

Hear every word on every call
With three integrated microphones, two speakers and support for wireless and wired headsets, collaboration is easy.

Capture ultra-high resolution photos and video intelligence
The 16 MP integrated camera offers the highest resolution in its class. And with optional Optical Image Stabilization (OIS), it's easy to capture sharp, detailed photographs to document proof of condition, proof of delivery and more.

Empower a new generation of data collection possibilities in your organization with the extraordinarily innovative TC53/TC58.
For more information, please visit www.zebra.com/tc53-tc58

Choose standard or advanced range scanning

Choose the SE4720 1D/2D scan engine for standard scanning ranges or the SE55 1D/2D Advanced Range scan engine with Intellifocus™ technology to scan items in hand or over 40 ft./12 m away (distance dependent on symbology type and size). Both options deliver split-second first time capture of virtually every barcode, regardless of condition.

Comprehensive accessories for every job

This accessory family offers it all — charging and Ethernet cradles for the desktop and backroom, accessories for in-vehicle use, a trigger handle for intensive scanning tasks, an RFID adapter and an adapter cup for backwards compatibility with existing TC5x multi-slot ShareCradles and more.

Solutions that define a new age of mobility

Calculate accurate parcel dimensions — and shipping charges

Zebra Dimensioning™ Certified Mobile Parcel[1] is an industry-first solution that utilizes the integrated Time of Flight sensor to collect accurate 'legal for trade' parcel dimensions in just seconds, with the simple press of a button. Pricing is accurate and workers are more productive — no need to manually measure boxes.

Create a mobile-driven workstation

Just drop the TC53/TC58 into a Workstation cradle[1] to connect to a monitor, keyboard, mouse, printer and more, eliminating the need to purchase and manage separate fixed workstations.

Create a complete hybrid Point-of-Sale (POS)

Drop the TC53/TC58 into the Workstation Point-of-Sale cradle[1] to connect to everything needed to create a complete POS — such as a large display, scanner, receipt printer, payment terminal, keyboard and mouse.

Add lightning-fast RFID

Take inventory in record time with the standard range RFD40 and standard or extended range RFD90 Ultra-Rugged UHF RFID sleds. These sleds read an impressive 1,300 tags per second. Connect the sleds via a Bluetooth™, NFC or Zebra's eConnex™ adapter. And Wi-Fi 6E enables easy over-the-air management of the mobile computers and their attached sleds.

Add two-way radio capabilities

Keep workers everywhere connected with the press of a button.

Inside your facility, optional Push-to-Talk (PTT) Express enables instant PTT walkie-talkie style calls over the Wi-Fi network, right out of the box. Out in the field, optional PTT Pro enables PTT calling and secure messaging over the cellular network through an easy-to-deploy cost-effective subscription service.

Add PBX handset functionality

Add fully-featured PBX handset functionality with Zebra's Workforce Connect Voice. The need to purchase and manage additional voice-enabled devices is eliminated. And a custom interface makes it easy to execute even the most complex telephony features.

Drive workforce productivity and device value to a new level with Mobility DNA

Simplify device integration

Create rich apps that take full advantage of your device's capabilities with Enterprise Mobility Management Tool Kit. Build feature-rich web applications with Enterprise Browser. And easily capture and integrate barcode data into your apps without writing any code with DataWedge API.

Increase device security

Keep your devices secure every day they are in service with LifeGuard™ for Android™ [2]. And restrict apps and device features with Enterprise Home Screen.

Deploy devices quickly and easily

Let your devices provision themselves right out of the box with Zebra Zero-Touch. Stage a handful or thousands of devices with a scan of a barcode or tap on an NFC tag with StageNow.

Make device management simple and easy

Locate missing devices quickly and easily with Device Tracker — and with the BLE battery, you can find devices even if they are turned off or the battery is dead. Get dependably superior Wi-Fi connections with Wireless Fusion. Control which Google Mobile Services are active on your devices with GMS Restricted Mode. Test major device systems to eliminate unnecessary trips to the repair depot with Device Diagnostics.

Increase on-the-job productivity

Easily manage Bluetooth accessories with Device Central. Convert 'green' screens to intuitive all-touch modern screens with All-touch Terminal Emulation. Give workers a keyboard designed for your data with Enterprise Keyboard. Capture only the barcodes you want with Simulscan. Capture standardized data such as drivers licenses, license plates with OCR Wedge. And more.

Specifications

Physical Characteristics

Dimensions	6.48 in. L x 3.04 in. W x 0.66 in. H 164.8 mm L x 77.35 mm W x 16.75 mm H
Weight	10.3 oz./293 g with standard battery
Display	6.0 in. Full High Definition; 1080x 2160; LED back-light; 600 NITS; optically bonded to touch panel
Imager Window	Corning™ Gorilla™ Glass
Touch Panel	Multi-mode capacitive touch with bare or gloved fingertip input or conductive stylus (sold separately), Corning Gorilla Glass; water droplet rejection; fingerprint resistant anti-smudge coating
Power	Rechargeable Li-Ion, PowerPrecision+ for real-time battery metrics; Standard capacity: 4680 mAh (18.01 Watt hours); Extended capacity: 7000 mAh (26.95 Watt hours); BLE battery: 4680 mAh; Qi compatible Wireless charge battery: 4680 mAh; fast charging Warm Swap battery mode (standard SKUs); Hot Swap battery mode (premium SKUs)
Expansion Slot	User accessible MicroSD card supports up to 2 TB
SIM	TC58 only: 1 nano SIM; 1 eSIM
Network Connections	TC53: WLAN, WPAN (Bluetooth) TC58 only: WWAN 5G
Notifications	Audible tone; multi-color LEDs; haptic feedback
Keypad	On-screen keypad and enterprise keyboard
Voice and Audio	Three microphones with noise cancellation; vibrate alert; dual speakers for loudness; Bluetooth wireless headset support; high quality speaker phone; PTT headset (3.5 mm and Zebra USB-C) support; cellular circuit switch voice; HD voice; Super-wideband (SWB) and Fullband (FB) audio; 3.5 mm audio jack only on WLAN SKUs
Buttons	Programmable buttons for maximum flexibility: dual dedicated scan buttons, dedicated push-to-talk button, volume up/down buttons and trigger button of trigger handle via Back I/O.
Interface Ports	USB 2.0 (Back I/O - Host Only), USB 3.0 (Bottom Type C) - Super Speed (Host and Client)

Performance Characteristics

CPU	Qualcomm 6490 octa-core, 2.7 GHz
Operating System	Android; for supported Android versions, visit: www.zebra.com/android-versions
Memory	4GB RAM/64GB UFS Flash; 8GB RAM/64GB UFS Flash; 8GB RAM/128GB UFS Flash
Security	FIPS 140-2 cryptography can be enabled on select configurations through a custom SKU request; Supports Secure Boot and Verified Boot.

Wireless WAN, Data and Voice Communications (TC58)

GPS	GPS, GLONASS, Galileo, Beidou, QZSS Dual-Band GNSS — concurrent L1/G1/E1/B1 (GPS/QZSS, GLO, GAL, BeiDou) + L5/E5a/BDSB2a (GPS/QZSS, GAL, BeiDou); a-GPS; supports XTRA
Multimedia	Wi-Fi Multimedia™ (WMM) and WMM-PS; TSPEC
Radio Frequency Band	North America: 5G FR1: n2/5/7/12/13/14/25/26/29/38/41/48/66/71/77/78; 4G: B2/4/5/7/12/13/14/17/25/26/29/38/41/48/66/71; 3G: B2/4/5; 2G: 850/1900 Rest of World: 5G FR1: n1/2/3/5/7/8/20/28/38/40/41/66/71/77/78; 4G: B1/2/3/4/5/7/8/17/20/28/38/39/40/41/42/43/66/71; 3G: 1/2/3/4/5/8; 2G: 850/900/1800/1900 China/Japan: 5G FR1: n1/3/5/8/38/40/41/77/78/79; 4G: B1/3/5/7/8/19/34/38/39/40/41/42; 3G: B1/5/8/19; 2G: 850/900/1800 Supports private networking (LTE/5G) Note: Actual band support may vary by country or carrier, contact Zebra Tech Support for more details.

Wireless LAN

Radio	IEEE 802.11 a/b/g/n/ac/d/h/i/r/k/v/w/mc/ax; 2x2 MU-MIMO; Wi-Fi™ 6E (801.11ax); Wi-Fi certified; Wi-Fi™ 6E Certified; Dual Band Simultaneous; IPv4, IPv6
Data Rates	5GHz: 802.11a/n/ac/ax—20MHz, 40MHz, 80MHz, 160MHz - up to 2402 Mbps; 2.4GHz: 802.11b/g/n/ax—20MHz up to 286.8 Mbps 6GHz: 802.11ax - 20MHz, 40MHz, 80MHz, 160MHz - up to 2402 Mbps
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, 44,48,52,56,60,64,100,104,108,112,116,120,124, 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); 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); WWAN device only — EAP-SIM, EAP-AKA; WPA3 Enterprise 192-bit mode (GCMP256) — EAP-TLS; Enhanced Open (OWE)
Certifications	Wi-Fi Alliance Certifications: Wi-Fi CERTIFIED n; Wi-Fi CERTIFIED ac; Wi-Fi CERTIFIED 6; Wi-Fi Enhanced Open; WPA2-Personal; WPA2-Enterprise; WPA3-Personal; WPA3-Enterprise (includes 192-bit mode); Protected Management Frames; Wi-Fi Agile Multiband; WMM; WMM-Power Save; WMM-Admission Control; Voice-Enterprise; Wi-Fi Direct; QoS Management; OCE
Fast Roam	PMKID caching; Cisco CCKM; 802.11r; OKC

Wireless PAN

Bluetooth	Class 2, Bluetooth v5.2; secondary Bluetooth Low Energy (BLE) for beaconing within BLE battery

Markets and Applications

Retail

- Price/inventory checks
- Item locator
- Line busting/Mobile Point of Sale
- Assisted selling
- Task management
- Front of store replenishment
- Price management
- Inventory/cycle counts
- Workforce management
- Planogram management
- Promotion compliance
- Merchandising
- Back of store management

Field Service

- Asset management
- Parts inventory
- Invoicing/Mobile Point of Sale
- Scheduling

Transportation and Logistics

- Proof of delivery/condition
- Asset management
- Invoicing/Mobile Point of Sale
- Location services

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% to 95% non-condensing
Sealing	IP68 and IP65 with battery per applicable IEC sealing specifications
Drop Specifications	Multiple 6 ft./1.8 m drops to concrete over operating temp (-20°C to 50°C/-4°F to 122°F) with protective boot per MIL STD 810H; Multiple 5 ft./1.5 m drops to tile over concrete (-10°C to 50°C/14°F to 122°F) per MIL STD 810H
Tumble Specification	1000 1.6 ft./0.5 m tumbles at room temperature without protective boot, meets or exceeds IEC tumble specification; 1000 3.2 ft./1.0 m tumbles at room temperature with protective boot, meets or exceeds IEC tumble specification
Electrostatic Discharge (ESD)	+/- 15 kV air discharge; +/- 8 kV direct discharge; +/- 8 kV indirect discharge

General Certifications

TAA compliant; ARCore Google certification sustained

Automated Interactive Sensor Technology (IST)

Light Sensor	Adjusts display backlight brightness
Magnetometer	eCompass to detect direction and orientation (not available in the base LAN model)
Motion Sensor	3-axis accelerometer with MEMS Gyro
Pressure Sensor	Detects altitude information for locating
Proximity Sensor	Disables display output and touch input when placed against head during a call
Gyro	Senses linear orientation

Data Capture

Scanning	SE55 1D/2D Advanced Range Scan Engine with IntelliFocus™ technology; SE4720 1D/2D Scan Engine
Camera	Front—8 MP; Rear—16 MP autofocus; flash LED generates balanced white light; supports Torch mode + HDR (standard); Optical Image Stabilization (OIS) (premium SKUs only), Time of Flight (ToF) Sensor (premium SKUs only)
NFC	ISO 14443 Type A and B; FeliCa and ISO 15693 cards; Card Emulation via Host; Contactless payment support, ECP1.0 and ECP2.0 polling support, Apple VAS certified, NFC Forum Certified, and Google Smart Tap Ready

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

Warranty

Subject to the terms of Zebra's hardware warranty statement, the TC53/TC58 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 OneCareTM Essential and Select support services; Zebra Visibility Services — VisibilityIQ™ Foresight; For information on Zebra services, please visit www.zebra.com/services

Footnotes

1. Workstation cradles and Certified Mobile Parcel available in 2H 20222. LifeGuard for Android is included with every Zebra OneCare Support agreement. Some features are available through a supported EMM.Specifications subject to change without notice.

Mobility DNA

For information on Mobility DNA, visit www.zebra.com/mobilitydna
Mobility DNA features vary by model; a support contract may be required. To learn what solutions are supported, visit: https://developer.zebra.com/mobilitydna

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