

WS50 Android wearable computer

World's smallest enterprise-class all-in-one Android mobile wearable computer with unparalleled functionality and flexibility

Employees and colleagues without mobile access to relevant information have to take more steps and need more time to complete tasks. This affects operational efficiency. Now you can easily connect your workforce with Zebra's WS50, the world's smallest enterprise-class Android mobile wearable computer. It is robust, modular and at home everywhere - whether in a manufacturing plant, warehouse, retail store or catering establishment. It's versatile - this flexible computer is modular, so you can choose the right mount for the job: wrist, back of hand, or two-finger mount. Small but powerful, it offers effective, enterprise-class voice and data capabilities that increase productivity and accuracy in every task. It is light, ergonomic and comfortable and can fit anywhere. The first device of its kind, it does not require a host device and enables powerful data collection with a single device.



Designed for maximum flexibility

True one-piece wearable device without a host

With the WS50 all-in-one computer, employees only need to carry one device to capture and use data, instead of a mobile host computer and ring scanner. It is a true complete wearable solution. Thanks to Push-to-Talk (PTT) support, no separate voice devices are required.

Flexibility through modular mounting options

With three different carrying options, the adaptable WS50 is for

practically all employees in almost every industry are suitable. The WS50 can be worn on the wrist, on two fingers or on the back of the hand.

All the important features of a full-fledged mobile computer

Better connect your employees with push-to-talk (PTT) and task management applications

All models are PTT ready, so managers and employees can instantly collaborate to resolve issues faster and increase productivity. All models also support task management applications, enabling better employee utilization and management.

High-resolution camera for low barcode scanning volumes and photos

The wrist-worn model's 13MP camera is suitable for occasional barcode capture and takes detailed photos to document the status of shipments and more.

Advanced, enterprise-class scanner for high volume barcode scanning

Integrate Zebra's SE4770 imager, providing superior data capture performance. Scan virtually any barcode in any condition, including damaged or poorly printed barcodes - as fast as you can press the shutter button. Superior motion tolerance allows barcodes to be captured even when the scanner or barcode is in motion. There's no need to press the shutter button for every scan - you can scan continuously with an optional built-in proximity sensor.

Connect your workforce with Zebra's WS50, the world's smallest enterprise-class all-in-one Android wearable computer.

For more information, visit www.zebra.com/ws50.

The large field of view enables easy scanning of large or multiple barcodes in fractions of a second. Thanks to Zebra's Multi-Code Data Formatting, all barcodes on a label can be captured, properly formatted and transmitted with a single trigger.

Simplify device and battery management (and purchase) with modular accessories

Choose the charging solution that meets your device deployment and management needs - dual or 10-slot charging stations (for charging only), quad or 20-slot battery chargers, or an Ethernet docking station that supports five devices and five batteries. For mixed deployments, color coding allows you to distinguish the docking stations and chargers of the two-finger and back-hand models from those of the wrist-mount models.

Powerful Android

As an industry standard, this mobile operating system offers a future-proof platform that can be easily expanded with new features.

Integrated audio functions

Thanks to the integrated speaker and microphone, users benefit from voice communication immediately. Connect a Bluetooth headset for more private communication without cables. You can also assign a button specifically for PTT communication.

Powerful central management for all models

The WS50 supports all major Enterprise Mobility Management (EMM) systems, allowing you to manage all your mobile devices from a single interface.

Comprehensive wireless connectivity

The WS50 comes standard with Wi-Fi, Bluetooth and NFC, enabling stable Wi-Fi connections and pairing Bluetooth peripherals with a simple tap.

Small but powerful with an integrated robust design

Don't underestimate these small devices. They only weigh a few grams, but are designed for all-day use in companies. Extreme heat and cold, shocks and falls - the WS50 can survive it all. The wrist model works reliably after multiple 1.2 m/4 ft drops and 1,000 consecutive flips. The more robust ring and back of hand models perform reliably after multiple drops from 1.8 m/6 ft and 2,000 consecutive flips. Thanks to IP65 sealing, all models are dustproof and offer protection against splash water. The replaceable front protective casing ensures your devices continue to look new.

Advanced touchscreen

The 2-inch AMOLED color display offers outstanding performance. It's extremely bright - no backlight required. Better contrast and viewing angles ensure superior readability. In addition, the low power consumption extends the battery life.

Reach new heights in employee productivity and device utility with powerful, exclusive Mobility DNA tools from Zebra.

Easier integration into your environment

The Enterprise Mobility Development Kit (EMDK) makes it easy to get the most out of all the device's features. And with DataWedge, data is effortlessly captured, formatted correctly, and transferred to the right applications in the right order - without programming or modifying existing apps.

Greater device and data security

Performance for a complete shift

Thanks to the hot-swappable batteries, the devices can remain in use continuously throughout each shift. The wrist-mounted model has an 800mAh battery, while the ring and back-of-hand models are powered by a 1300mAh battery. Thanks to the quick charging function, batteries are charged and ready for use in less than three hours. And with hot-swap support, users can easily replace the battery and continue working - no need to turn off the device.

Automated workflows with programmable buttons

Programmable buttons that can be assigned functions such as PTT, navigation, scanning, photo capture and more make completing tasks on the 2-inch screen even easier.

Mobility Extensions (Mx) adds additional layers of functionality critical to protecting your devices, stored data, and network access. LifeGuard for Android TM provides lifetime security for your Android devices, protecting them throughout their lifespan. Enterprise Home Screen lets you control which apps and device features users have access to, protecting productivity and increasing device and network security.

Simplify deployment and management

Deploy thousands of devices with just a scan of a barcode or tap of an NFC tag. Test critical device systems using the built-in Device Diagnostics Tool to avoid unnecessary trips to the service center. Integrate all of Zebra's APIs through your EMM with OEMConfig.

Optimizing your WiFi

Mobility DNA Wireless Fusion delivers a reliable, superior Wi-Fi experience with features only available from Zebra to keep your employees connected and productive across their business.

Technical data

Physical characteristics

Dimensions	Wrist Model (Device): 2.44 in L x 2.32 in W x 0.71 in D 62 mm L x 59 mm W x 18 mm D Wrist model (with holder): 2.91 in L x 2.51 in W x 0.751 in D 74 mm L x 64 mm W x 19 mm D Models with integrated scanner : 2.52 in L x 2.44 in W x 1.10 in D 64 mm L x 62 mm W x 28 mm D
Weight	Wrist model (device): 70 g/2.47 oz Wrist model (with holder): 112 g/3.95 oz Models with integrated scanner: 134 g/4.73 oz
display	2-inch AMOLED color display (460 x 460), optically linked to the touch panel
Scan window	Corning® Gorilla® Glass
Touch screen	Capacitive touchscreen, finger input (with and without gloves), Corning® Gorilla® Glass
Power supply	Standard (wrist model): 3.08 Wh; 800 mAh High capacity (models with integrated scanner): 5 Wh; 1,300mAh PowerPrecision; Hot Swap (2 minutes, memory persistent only)
Network connections	USB 2.0 High Speed (host and client), WLAN and Bluetooth
Notifications	Beep, charging LED, operating system notification LED, multi-color application LEDs (2), haptic feedback
Speech and audio	Loudspeaker (90 dBA); internal microphone; PTT ready; Bluetooth headset support
Keys	Wrist model : 4 buttons (programmable) Models with integrated scanner : trigger; 2 buttons (programmable)
Interfaces	docking contacts; via interface cable: USB-C (USB 2.0) host/client and charging

Scanner performance

Image resolution	1280x800 pixels
roll	360°
Tend	±60°
Sway	±60°
Target element	655 nm laser
lighting element	1 660nm LED in hyper red or 1 LED in warm white
Field of view	Horizontal: 48°; vertical: 30°
Insensitivity to ambient light (total darkness)	Max. 107,639 lux (direct sunlight)
Supported 1D symbol sets	Code 39, Code 128, Code 93, Codebar/NW7, Code 11, MSI, UPC/EAN, I 2 of 5, Korean 3 of 5, GSI DataBar, Base 32 (Italian Pharmacode)
Supported 2D symbol sets	PDF417, Micro PDF417, Composite Codes, TLC-39, Aztec, DataMatrix, MaxiCode, QR Code, Micro QR, Chinese Sensible (Han Xin), Postal Codes
Supported OCR	OCR-A, OCR-B

Interactive Sensor Technology (IST)

Light sensor	Automatic adjustment of display brightness
Motion sensor	6-axis accelerometer with MEMS gyro

Data collection

to scan	Built-in Scanner Models : SE4770 Standard Range Omnidirectional 1D/2D Imager Wrist Model : 13MP camera with flash, or no data capture option
camera	13 MP with flash (wrist model only)
NFC	Tap pairing, ISO 14443 Type A and B; Felica and ISO 15693 cards and card emulation over host (HCE)
Scan trigger	Manually or automatically using proximity sensor technology

WIRELESS INTERNET ACCESS

Wireless	IEEE 802.11 a/b/g/n/ac/d/h/i/r; Wi-Fi™ certified; IPv4, IPv6, 1x1 SISO
Data rates	2.4GHz: 802.11 b/g/n/ac - 20MHz, 40MHz - up to 200Mbps 5GHz: 802.11 a/g/n/ac - 20MHz, 40MHz, 80MHz - up to 433Mbps
Operating channels	Channels 1-13 (2412-2472 MHz), Channels 36-165 (5180-5825 MHz) Channel bandwidth: 20, 40, 80 MHz Actual operating channels/frequencies and bandwidths are subject to applicable regulations and certification authorities.
Security and encryption	WEP (40 or 104 bits); WPA/WPA2 Personal (TKIP and AES); WPA3 Personal (SAE); WPA/WPA2 Enterprise (TKIP and AES) - EAP-TTLS (PAP, MSCHAP, MSCHAPv2), EAP-TLS, PEAPv0-MSCHAPv2, PEAPv1-EAP-GTC and EAP-PWD
Certifications	WFA (802.11n, 80211ac, WPA2-Personal, WPA3-Personal, WPA2-Enterprise, PMF)
Fast roaming	PMKID caching; 802.11r (over-the-air); OKC

Wireless PAN

Bluetooth	Bluetooth 4.2, support Bluetooth Low Energy (BLE), Class 1
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guarantee

Subject to the terms of Zebra's Hardware Warranty Statement, the W550 is warranted to be free from defects in workmanship and materials for a period of one (1) year from the date of shipment. For full warranty terms and conditions, please visit: www.zebra.com/warranty

Recommended Services

Support Services: Maximize device availability, operational efficiency, and receive security updates with Zebra OneCare™ Essential or Select services. Protect your investment with advance depot repairs or replacement device delivery, technical support, software and support, LifeGuard updates, device diagnostics and cloud-based VisibilityIQ™ OneCare™ for access to repairs, support cases, contracts, LifeGuard reports and more .Zebra VisibilityIQ™ Foresight: This optional business intelligence service consolidates

Markets and applications

retail trade

- Price marking/reduction
- Back office processes
- Task management

Warehousing/Manufacturing

- Sorting
- Outsourcing
- Picking
- Loading/unloading
- Task management

Transport and logistics

- Sorting
- Loading/unloading

Hospitality industry

- Gastronomy: Restaurant staff, room service
- Housekeeping
- Janitorial services

Scanner performance

symbol sets	
Scan trigger	Manual trigger for left and right-handed users or automatically using proximity sensor technology

Recommended Services

device data into a single, color-coded, cloud-based overview. Reports are available 24/7 so you can stay informed about how your devices are performing and decide what steps to take next to improve your operations. Maximize productivity and gain actionable insights to optimize workflows.

Performance characteristics

CPU	Snapdragon Wear™ 4100 Platform/SDW429w, Quad-Core, 2.0 GHz
operating system	Android 11 AOSP
random access memory	1GB RAM/8GB Flash

Mobility DNA™

Mobility DNA solutions help you get more out of your mobile computing with additional functionality and simplified mobile device deployment and management. For more information about these exclusive Zebra features, visit: www.zebra.com/mobilitydna Mobility DNA is only available for Android. Features may vary depending on model. A support contract may be required. For more information about these exclusive Zebra features and a current list of supported apps, please visit: <https://developer.zebra.com/mobilitydna>

User environment

operating temperatur	-10°C to 50°C (14°F to 122°F)
Storage temperature	-40°C to 70°C (-40°F to 158°F)
humidity	5%-95%, non-condensing
Drop resistance	Wrist Model : 1.2 m/4 ft drop to concrete in accordance with MIL-STD-810G over full operating temperature range Models with integrated scanner : 1.8 m/6 ft drop to concrete on tiles over concrete in accordance with MIL-STD-810G over the entire operating temperature range
Rollover specification	Wrist model : 1,000 flips from 0.5 m/1.6 ft height Models with integrated scanner : 2,000 rollovers from 0.5 m/1.6 ft. Meets and exceeds IEC rollover specification
sealing	IP65
vibrations	4G PK sine (5 Hz to 2 kHz), duration: 1 hour per axis; 0.04 g2/Hz random (20 Hz to 2 kHz), duration: 1 hour per axis
Electrostatic discharge (ESD)	± 15 kV air discharge, ± 8 kV direct/indirect discharge



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