IDCR@FT
RFID & NFC EXPERTS

UHF | RAIN - Android Wearable Computer
Zebra - WS50

- RAIN RFID (UHF EPC Class1 Gen2, ISO 18000-63) compliant
- Google ARCore certified
- 5G, WiFi, Bluetooth 5.2, GPS
- Up to 1,5 m reading range
- IP65 protection

UHF | RAIN - Wearable Computer
Maximum flexibility

The WS50 RFID is another industry first from Zebra, packing even more functionality into the world's smallest all-in-one enterprise-class Android wearable computer. Now, you can give your disconnected task workers more tools to complete more types of tasks, boosting collaboration, productivity and workflow efficiency to the next level. With this powerful little device, your workers get an integrated ergonomic host-free UHF RFID reader, a barcode scanner that can capture virtually any barcode in any condition, two-way radio instant push-to-talk capabilities and more that can be worn on a wrist, back of the hand or two fingers. The advanced 2-inch touchscreen is perfect for task management, providing the right amount of screen space without compromising wearability. Designed for the enterprise, the WS50 RFID delivers the rugged reliability, multi-shift swappable battery power and easy manageability that your business needs. And Mobility DNA adds unmatched value with features that make these devices easier to use and manage.

With the WS50 RFID, workers only need to wear one device to capture and access data instead of a host mobile computer and ring scanner, providing a true converged wearable solution. And push-to-talk (PTT) support eliminates the need for separate voice devices.

With high performance UHF RFID functionality, the WS50 RFID empowers workers to be more efficient and effective. The WS50 RFID can read RFID tags up to 5 ft./1.5 m away. With an integrated upward facing antenna and external downward antenna, the WS50 RFID is ideal for a wide variety of use cases, including package sorting, item picking and user locationing.

Common Applications

- Back of store operations
- Picking
- Inventory management
- Package handling
- Pallet/container management
- Parts tracking

ZEBRA CAPTURE YOUR EDGE

TECHNICAL SPECIFICATIONS

Physical Characteristics

Dimensions	81 mm L x 61 mm W x 38 mm
Weight	196 g (finger mount)
Display	2 in. AMOLED 460 x 460 color display; optically bonded to touch panel
Imager Window	Corning® Gorilla® Glass
Touch Panel	Capacitive touch panel; fingertip and glove support; Corning® Gorilla® Glass
Power	9.24 Watt Hours; 2400mAh PowerPrecision; Hot Swap (2 minutes, memory persistent)
Network Connections	USB 2.0 High Speed (host and client), WLAN and Bluetooth
Notifications	Audible tone; charge LED; OS notification LED; multi-color Application LEDs (2); haptic feedback
Voice and Audio	Speaker (90dBA); internal mic; PTT ready; Bluetooth headset support
Buttons	Trigger; 2 buttons (programmable)
Interfaces	Docking contacts; Via interface cables: USB-C (USB 2.0) host/client and charging

Scanner Performance

Optical Resolution	1280 x 800 pixels
Roll	360°
Pitch	±60°
Skew	±60°
Aiming Element	655 nm Laser
Illumination Element	1 Hyper Red 660 nm LED or1 Warm-White LED
Field of View	Horizontal: 48°, Vertical: 30°
Ambient Light Immunity (From total darkness)	Maximum 107,639 lux (direct sunlight)
Supported 1D Symbologies	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 Pharma)
Supported 2D Symbologies	PDF417, Micro PDF417, Composite Codes, TLC-39, Aztec, DataMatrix, MaxiCode, QR Code, Micro QR, Chinese Sensible (Han Xin), Postal Codes
Supported OCR Symbologies	OCR-A, OCR-B
Scan Triggering	Manual ambidextrous trigger or automatic via Proximity Sensor technology

Wireless LAN
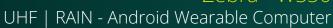
Radio	IEEE 802.11 a/b/g/n/ac/d/h/i/r; Wi-Fi™ certified; IPv4, IPv6, 1x1 SISO
Data Rates	2.4 GHz: 802.11b/g/n/ac—20 MHz, 40 MHz—up to 200 Mbps 5 GHz: 802.11a/g/n/ac—20 MHz, 40 MHz, 80MHz—up to 433 Mbps
Operating Channels	Channel 1-13 (2412-2472 MHz); Channel 36-165 (5180-5825 MHz) Channel Bandwidth: 20, 40, 80 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 andAES); WPA3 Personal (SAE); WPA/WPA2 Enterprise (TKIP and AES); EAP-TTLS (PAP, MSCHAP, MSCHAPv2), EAP-TLS, PEAPv0-MSCHAPv2, PEAPv1-EAP-GTC, EAP-PWD
Certifications	WFA (802.11n, 80211ac, WPA2-Personal, WPA3-Personal, WPA2-Enterprise, PMF)
Fast Roam	PMKID caching; 802.11r (Over-The-Air); OKC

Wireless PAN

Bluetooth	Bluetooth 4.2; Bluetooth Low Energy (BLE) support; Class 1

Performance Characteristics

CPU	Snapdragon Wear™ 4100 Platform/SDW429w, quad-core, 2.0 GHZ
Operating System	Android 11 AOSP
Memory	1 GB RAM/8 GB Flash

TECHNICAL SPECIFICATIONS

User Environment

Operating Temperature	-10° C to +50° C
Storage Temperature	-40° C to +70° C
Humidity	5% - 95% non condensing
Drop Specification	1.5 m drop to concrete per MIL-STD 810G across operating temperature
Tumble Specification	2,000 tumbles @ 0.5 m meets and exceeds IEC tumble specifications
Sealing	IP65
Vibration	4 g's PK Sine, 5hz to 2khz, 1 hour duration per axis; 0.04 g2/Hz Random (20 Hz to 2 kHz), 1 hour duration per axis.
Electrostatic Discharge (ESD)	+/-15 kV air discharge, +/-8 kV direct/indirect discharge

Interactive Sensor Technology (IST)

Light Sensor	Automatically adjusts display backlight brightness
Motion Sensor	6-axis accelerometer with MEMS Gyro

Data Capture

Scanning	SE4770 1D/2D standard range omni-directional imager
NFC	Tap to Pair, ISO 14443 Type A and B, Felica and ISO 15693 cards, and Card Emulation via Host (HCE) support

RFID

Standards Supported	EPC Class 1 Gen 2; EPC Gen 2 V2
RFID Engine	Zebra proprietary radio technology
Nominal Read Range	~1.5 m
Frequency Range and RF System Output	US: 917-928 MHz; 0-24 dBm EU: 865-868 MHz; 0-24 dBm

Part No. / Model

	Zebra - WS50 (WS5001-0B2J3020EA6)