FR55 First Responder Mobile Computer

Put the world of critical voice and data communications in the hands of first responders

Mission and business critical narrowband mobile communication systems are transitioning to broadband networks for features that reach beyond voice to greatly enrich intelligence for police, fire, emergency medical services (EMS), military and other first responders. The FR55[1] makes that transition easy. This advanced cellular device offers mission critical voice and data multimedia communications, comprehensive security and extensive wireless network connectivity — plus Zebra's signature rugged design, reliable performance and nearly two decades of Android expertise. Interoperability with Mission Critical Communications (MCX) platforms provides public safety communications over LTE /5G based narrowband private and broadband public networks, along with Land Mobile Radio (LMR) TETRA devices. The result? More intelligence. Stronger collaboration. Better decisions. And increased safety for all.



Comprehensive voice functionality

Interoperability with narrowband devices
Seamlessly communicate with devices that utilise today's digital radio technologies, including TETRA, DMR, P25 and TETRAPOL via integration with MCX solutions, as well as other LTE/5G devices.

eMBMS (Evolved Multimedia Broadcast Multicast Service) support
Simultaneously broadcast intelligence to a large number of users with this licensable technology, such as a push-to-talk (PTT) call, map data or high resolution images and videos.

Next-level voice clarity
Workers can easily hear conversations on virtually every call with comprehensive voice features, including three integrated microphones, two speakers, support for wireless and wired headsets and AI neural network-based noise suppression for superior intelligibility.

Comprehensive wireless connectivity

Support for the latest cellular networks and the most radio bands
2nd gen 5G (Rel 16) provides the fastest and most secure cellular connections, while the broadest selection of radio bands in the market supports global public safety bands.

Faster Wi-Fi connections with Wi-Fi 6E
With 3x bandwidth, 75% less latency[2] and Zebra Wireless Fusion[3] software, you get solid reliable wireless connections, even when roaming — and the capacity to support advancements that can provide lifesaving information.

Superior Bluetooth peripheral support with Bluetooth v5.3
Whether your workers are using wireless earpods or printing, Bluetooth v5.3 boosts energy efficiency, enhances security and minimises device interference for highly reliable connections.

Comprehensive security

Best-in-class security for your devices and their data

Give your first responders the exceptional intelligence they need to achieve exceptional collaboration and results with the FR55.
For more information, please visit www.zebra.com/fr55

Get the advanced security that mission critical operations require. The Secure Element[4] is a tamper-resistant chip that stores and processes sensitive data. Android Strongbox protects sensitive data such as passwords. Secure Boot and Verified Boot prevent malware and corrupted components from loading when the device is powered on. FIPS 140-2 validation protects data in motion and at rest. And Common Criteria certification ensures products meet the high security standards required by government agencies.

A lifetime security guard for Android

Protect your Android operating system every minute your devices are in service with LifeGuard for Android™ [5], which can automatically identify and install needed security updates and patches.

Secure device access with the Zebra Guardian family

Give workers easy and secure device access with Identity Guardian — facial recognition instantly unlocks and automatically provisions the FR55 with the appropriate applications and permissions, eliminating the risk of compromised credentials that could provide unauthorised users with access to your network and data. See real-time device status with Device Guardian Access Management, making it easy to monitor your entire device pool. Find lost and misplaced devices quickly and easily — even if they are powered down — with Device Guardian. And securely store and charge devices with Guardian Cabinets.

Field proven and purpose built features for first responders to improve safety, collaboration and outcomes

Rugged and ready for the most challenging environments

The pre-installed rugged boot makes this device dustproof, waterproof, drop-proof and tumble-proof, ready to deliver reliable performance anywhere your first responders need to go.[6] Gorilla Glass strengthens one of the most vulnerable yet crucial device components — the display — enabling it to survive the real-world events that typically cause glass to scratch, chip or break.

Top mounted programmable duress button

A single press of this button calls the right person in the right department to respond to a call for help.

Enterprise-class Android

Add over 100 enterprise features to Android with Zebra DNA Mobility Extensions (Mx). And long-term Android support ensures access to the latest Android productivity and security features.

Capture critical details in high-quality photos

The rear-facing 16 MP camera with High Dynamic Range (HDR), Pro mode and Zebra's advanced camera application captures more details in the lightest and darkest areas of a photo — in shadows and bright sunlight — and alerts users when the camera lens is dirty.

Improve collaboration with video streaming

The 8 MP front camera enables first responders to provide richly detailed video information to improve collaboration, first responder preparedness and outcomes.

Large 6-inch advanced display to see more — and scroll less

The crisp edge-to-edge 1080x2160 high resolution display provides a rich viewing experience; is easy to see in just about every lighting condition — indoors and outside, works when wet and with gloves.

The power to run all of your critical applications — simultaneously

The new 2.4 GHz Qualcomm® processor is a workhorse, able to support all the apps your workers need, yet consumes less power.

Keep devices in service with a full-shift hot-swappable battery

Get full shift power with all four battery options — standard, BLE and wireless charge 4680 mAh batteries and the extended 7000 mAh battery. PowerPrecision+ technology provides the intelligence to identify and remove batteries that can no longer hold a full charge.

Complete enterprise-class accessory family

Add the accessories your first responders need with Zebra and third-party mission critical accessories — from cradles, headsets and RSMs to arm mounts, holsters and more.

Unprecedented uptime, expandability and lifecycle deliver an exceptional return on investment (ROI)

Add features and device value with Zebra DNA

This ever-expanding large family of software tools makes Zebra devices easier to setup, secure, manage and use.

Keep your devices up, running and in the hands of users

Zebra OneCare Select all-inclusive coverage includes normal wear and tear and accidental damage — with options that let you tailor plans to your needs.

Extraordinary lifecycle

Zebra is known for manufacturing devices that last, with an exceptional sales and service period. The complexity of mixed model deployments is eliminated. And support for a minimum of eight years delivers an enviable ROI that is in a class of its own.

Sustainable 'green' design and construction

This EPEAT® device scores high on sustainability[7], with RoHS and REACH compliance, recycled plastic content, sustainable packaging, removable and recyclable batteries, and the ability to double as a workstation and 2-way radio.

Specifications

Physical Characteristics

Dimensions	6.74 in. L x 3.33 in. W x 1.04 in. H (171.39mm L x 84.83mm W x 26.64mm H)
Weight	11.30 oz/(320.5g) with standard battery and rugged boot
Display	6.0 in. Full High Definition+; 2160 x 1080; LED back-light; 600 NITS; optically bonded to touch panel
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 Hot Swap battery mode
Expansion Slot	User accessible MicroSD card supports up to 2 TB
SIM	2 Nano SIMs + eSIM; 1 Nano SIM + Micro SD Card Slot + eSIM; 1 Nano SIM + Nano SAM + eSIM
Secure Access Module (SAM)	Available on select models: Smart Card support for secure transactions with Nano-SAM slot; ISO7816 compliant; Mifare; Calypso; FeliCa; ITSO; support for Extended APDU and PPS for faster secure transactions
Network Connections	WLAN; WPAN (Bluetooth); USB 2.0 (Back I/O - Host only); USB 3.1 superspeed (Bottom Type C) - Super Speed (Host and Client); WWAN 5G and 4G/LTE
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 (Zebra USB-C) support; cellular circuit switch voice; HD voice; Super-wideband (SWB) and Fullband (FB) audio
Buttons	Programmable buttons for maximum flexibility: dedicated top red duress button; dedicated push-to-talk button; volume up/down buttons; two additional programmable buttons
Interface Ports	USB 2.0 (Back I/O - Host Only); USB 3.1 superspeed (Bottom Type C) - Super Speed (Host and Client)

Performance Characteristics

CPU	Qualcomm QCM 4490 Kyro octa-core; 2.4 GHz
Operating System	Android; for supported Android versions, visit: www.zebra.com/android-versions
Memory	6GB RAM/64GB UFS Flash; 8GB RAM/128GB UFS Flash

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); Wi-Fi CERTIFIED 6™ (Wi-Fi 6E); Dual Band Simultaneous; 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
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.
Fast Roam	802.11r Fast BSS Transition; PMK Caching; Cisco CCKM; OKC
Security and Encryption	WPA3 Enterprise 192-bit mode, GCMP256 — EAP-TLS; WPA3 Enterprise; AES-CCMP-128 — EAP-TTLS (PAP, MSCHAP, MSCHAPv2); EAP-TLS, PEAPv0-MSCHAPv2; PEAPv1-EAP-GTC; LEAP, EAP-PWD; WPA3 Personal (SAE); AES-CCMP-128; WPA/WPA2 Enterprise; TKIP and AES-CCMP-128; WPA/WPA2 Personal (PSK); TKIP and AES-CCMP-128; Enhanced Open (OWE); AES-CCMP-128; WEP 40 bit and 104 bit; WAN device 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 WAN, Data and Voice Communications

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 IZATTM XTRA
Multimedia	Wi-Fi Multimedia™ (WMM) and WMM-PS; TSPEC
Radio Frequency Band	5G FR1: n1/n2/n3/n5/n7/n8/n12/n20/n25/n26/n28/n38/n40/n41/ n66/n71/n77/n78/n79; 4G: B1/B2/B3/B4/B5/B7/B8/B12/B17/B18/B20/B26/B28/B38/B39/ B40/B41/B42/B43/B66/B68/B71; 3G UMTS: B1, B2, B4, B5, B8; 2G GSM Bands: 850, 900, 1800, 1900; UMTS Bands: B1, B2, B4, B5, B8; Supports private networking (LTE/5G)
Mission Critical	Supports 5G NSA/SA, Network Slicing, e-MBMS and certified for 3GPP MCX; 3GPP Rel 16; PLMN of private networks (999, 99, etc.); CA and EN-DC (Carrier Aggregation and Evolved Non-standalone Dual Connectivity) on 4G and 5G FR1; Access Class 15

Markets and Applications

First responders

• Secure communications
• Emergency alarm via distress button
• Video streaming
• Incident reporting
• Cross unit control and collaboration
• Geolocation
• eMBMS (Evolved Multimedia Broadcast Multicast Services)

Military and Defense

• Secure communications
• Tactical communications bubble
• Internet of Military Things (IoMT)

Transportation and Logistics: Airlines

• Secure communications
• Emergency Incident reporting
• Emergency coordination

Transportation and Logistics: Rail

• Secure communications
• Emergency Incident reporting
• Train operator communications
• Passenger safety and security
• Rail infrastructure maintenance

User Environment

Operating Temp.	-4F to +122F (-20C to +50C)
Storage Temp.	-40F to +158F (-40C to +70C)
Humidity	5% to 95% non-condensing
Sealing	IP68 and IP65 with battery per applicable IEC sealing specifications
Tumble Specification	1000 3.2 ft. (1.0m) tumbles at room temperature with protective boot; meets or exceeds IEC tumble specification
Drop Specifications	Exceeds per MIL-STD-810H: 8 ft. (2.4m) to concrete with the boot; 6 ft. (1.8m) to concrete with the boot across temperature (-4F to +122F / -20C to +50C) exceeding MIL-STD-810H
Electrostatic Discharge (ESD)	+/- 15 kV air discharge; +/- 8 kV direct discharge; +/- 8 kV indirect discharge

General Certifications

FIPS 140-2 Validated (ISO 19790); Common Criteria certified (ISO15408); eMBMS certification; supports Secure Boot and Verified Boot

Interactive Sensor Technology (IST)

Light Sensor	Automatically adjusts display backlight brightness
Magnetometer	eCompass automatically detects direction and orientation
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

Camera	Front—8 MP; Rear—16 MP; Phase Detection Autofocus (PDAF); flash LED generates balanced white light; supports Torch mode + HDR (standard)
NFC	NFC ISO 14443 Type A and B; Mifare, FeliCa and ISO 15693 cards, NFC Forum tags 2,3,4,5; Host Card Emulation, Contactless Payment Support – Front Tap NFC for optimized contactless payment, VAS (Value Added Services) and Wallet support, Apple ECP1.0 and ECP2.0, Apple VAS and Google Smart Tap certified, VAS Library/SDK, Secure Element* for enhanced Apple/Google VAS secure key management; *Selected SKUs

Wireless PAN

Bluetooth	Class 1 and Class 2; Bluetooth v5.3; secondary Bluetooth Low Energy (BLE) for beaconing within BLE battery

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 FR55 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

Software and Solutions

Support for: full Zebra DNA; Device Guardian; Workstation Connect (available Q4 2025); Mobility DNA Cloud; Android Strongbox (supported in models with Secure Element). NOTE: Software and features vary by model; a support contract may be required. To learn what solutions are supported, visit: https://developer.zebra.com/zebra-dna

Zebra DNA

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

Footnotes

1. The FR55 is not available in North America, Latin America or Asia Pacific
2. Metrics are compared to Wi-Fi 5
3. Zebra Wireless Fusion software is included in all FR55 models
4. Secure Element is available in specific models
5. LIfeGuard for Android requires a Zebra OneCare support contract
6. The included and pre-installed field replaceable rugged boot is required to meet device specifications
7. EPEAT registration in process

Specifications subject to change without notice.

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