

Introducing the TC501

Reimagined to bring AI to the frontline



Unprecedented productivity.
Unmatched workflow efficiency.
Unrivalled customer satisfaction.

That's what you can expect when you put next generation AI apps in the hands of your frontline workers with the reimagined rugged TC501, the next generation TC5 Series.

New mobile processor built for on-device AI

Up to a 32% boost in processor performance¹

More memory to enable memory-hungry AI apps

Up to 2x more RAM and 4x more Flash

More data capture options to fuel your AI apps

2 new cameras, 3 new scanners, RFID, OCR, and more

The most rugged TC5 Series built to date

50% higher drop spec, 2x the tumble spec and more

Powerful AI app development tools for Zebra devices

Develop AI apps in days with Zebra Frontline AI Suite

All the fastest wireless networks

Global 5G, Private networks, Wi-Fi 7, Bluetooth 6

Upgrade your TC53 and TC58 to the TC501 today to empower your frontline with AI.
Learn more at www.zebra.com/tc501

Feature Comparison: TC501 vs. TC53/TC58

The TC53/TC58 raised the bar. The TC501 breaks through it—now tougher, ready to power the most processing intensive AI apps, capture more types of data to fuel AI apps, and more.

	TC53/TC58	TC501	
			
Built for Next-Level On-Device AI		TC501 Benefit	
Processor	Qualcomm® 6490	Qualcomm® Dragonwing™ Q-6690	Ground-breaking new processor built for AI, up to a 32% increase in performance ¹
Memory	4 GB/64 GB 8 GB/64 GB or 128 GB	8 GB/128 GB 12 GB/256 GB	Supports the most AI data-intensive apps; up to 2x more RAM and 4x more Flash
Display	6 inches FHD+ 600 Nits	6 inches FHD+ AMOLED 1500 Nits	Brighter display provides exceptional readability in any lighting condition; vibrant AMOLED display delivers a superior viewing experience, even at extreme angles
Cellular	5G	5G 3rd Gen Release 17	Offers the fastest cellular connectivity
Wi-Fi	Wi-Fi 6E	Wi-Fi 7	2x the speed of Wi-Fi 6, 2x the bandwidth; supports more devices and more traffic
Battery	4680 mAh, 7000 mAh, 4680 mAh wireless, 4680 mAh BLE Warm swap; Hot swap (premium)	5000 mAh, 7240 mAh, 5000 mAh wireless Hot swap	Higher capacity batteries ensure full-shift operation even with demanding power-hungry AI apps; hot swap standard on all models
Enhanced Data Capture Options			
Built-in RFID	No	Yes	Integrated short-range UHF RFID up to 6.5 ft. (2 m); eliminates the need for separate RFID readers or RFID sleds
Ultra-wide angled camera	No	13 MP (optional)	Unlocks new vision applications that require a wide view, such as capturing a retail shelf
Cameras (rear, front)	16 MP, 8 MP	50 MP, 8 MP	More than 3x higher resolution rear camera captures more image details, providing more detailed information for AI apps
Scan engine options	SE4770, SE55	SR500, SR560, AC670	AC670 premium advanced long-range scanner captures barcodes and color images up to 100 ft. (30 m); SR560 offers an improved 2D barcode finder for faster and more accurate barcode capture; SR500 captures barcodes in all lighting conditions with easy aiming
More Rugged			
Drop specification	Without boot: 5 ft. (1.5 m) to tile over concrete +14°F to +122°F With boot: 6 ft. (1.8 m) to concrete -4°F to +122°F	Without boot: 6 ft. (1.83 m) to concrete -4°F to +122°F; 8 ft. (2.44 m) to concrete at room temp With boot: 7 ft. (2.13 m) to concrete -4°F to +122°F; 9 ft. (2.74 m) to concrete at room temp	50% higher drop spec with and without a rugged boot; more rugged and reliable than legacy TC5 Series devices
Tumble specification	Without boot: 1,000 1.6 ft. (0.5 m) With boot: 1,000 3.3 ft. (1.0 m)	Without boot: 2,000 1.6 ft. (0.5 m) With boot: 2,000 3.3 ft. (1.0 m)	Survives 2x the number of tumbles
More Secure			
Secure Element	No	Yes	Best physical security; prevents physical hardware attacks and unauthorized access
Android Strongbox	No	Yes	Protects sensitive data such as passwords
Built-in Bluetooth BLE beacon	Requires BLE battery	Yes	Works with Device Guardian to find misplaced devices, even if they are powered off, no need to buy BLE batteries



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1. Based on GeekBench 6 Multi-Thread benchmark scores using real-world tests.