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S21

Enterprise Full Touch Handheld Computer

High Performance, Compact, Cost-Effective Mobile Computer

The S21 is a next-generation, cost-effective enterprise mobile computer designed to boost frontline productivity. Its lightweight, ergonomic 243g design and 2.6GHz octa-core processor deliver fast performance while reducing fatigue during long shifts. With Corning® Gorilla® Glass Victus® 2, IP65/68 sealing, up to a 6.5 ft. (2 m) drop specification, and 1,000 tumble specification, the S21 provides reliable operation indoors and outdoors. With 5G Release 16 and Wi-Fi 6E, workers stay connected with fast, reliable wireless performance.
A choice of barcode scan engines, optional integrated UHF RFID, a 50MP PDAF camera, and EMVCo RR2 NFC support a wide range of data capture and payment workflows. Backward compatibility with S20 accessories also makes migration to the S21 easy and cost-effective.

Key Features

Enhanced Performance in a Lightweight Design

The S21 delivers improved processing performance with its 2.6GHz octa-core processor while maintaining the same lightweight, ergonomic 243g design as the previous S20. This balance of performance and portability helps workers reduce fatigue during long shifts and complete retail, logistics, and field service tasks quickly and efficiently.

SoftPOS Payments with Front and Top NFC

The S21 supports fast and convenient contactless payment workflows with front and top NFC and EMVCo RR2 compliance. It enables SoftPOS deployments without a separate payment terminal, providing flexibility for retail line busting, mobile sales, and field payment applications. Combining a rugged design with integrated NFC, the S21 delivers reliable payment workflows in everyday frontline environments.

Streamline Workflows with Built-In RFID

The S21's optional built-in short-range UHF RFID capability enables barcode scanning and RFID tag reading in one mobile computer. It reads more than 200 tags per second at distances of up to 2 m (6.5 ft.), supporting fast inventory counts, shelf stock checks, and loss prevention in retail; receiving and picking verification in warehouses; and equipment and asset checks in healthcare and field operations. Without the need for a separate external reader, workers can complete these tasks more easily while maintaining a lightweight form factor.

Applications

Retail

- Inventory/cycle counts
- Receiving and put-away verification
- Shelf and backroom stock checks
- Picking and collecting
- SoftPOS / Line busting

Warehouse & Distribution

- Inventory and asset tracking
- Sorting, load and upload
- Pallet and tote verification
- Click and collect

Transportation & Logistics

- Courier / last mile delivery
- Payment on delivery
- Parcel and cargo tracking
- Proof of pickup and delivery
- Fleet management

Field Operations

- Field services / site security
- Facilities management
- Asset and equipment tracking

Healthcare

- Medical asset and equipment management
- Pharmacy and supply inventory
- Clinical mobility
- Patient wristband scanning

Hospitality

- Back-of-house stock management
- Asset tracking (linens, equipment)Event ticketing / POS

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Key Features

Enhanced Durability for Reliable Frontline Operations

The S21 offers enhanced drop durability for reliable use in everyday frontline environments. It withstands drops of up to 6 ft. (1.83 m), or up to 6.5 ft. (2 m) with the rugged case, along with 1,000 tumble specifications.

IP65/68 sealing and Corning® Gorilla® Glass Victus® 2 help protect the device and display from dust, water, scratches, and impact. The S21 delivers dependable performance and continuous operation across retail, warehouse, logistics, and field service applications.

Keep Work Moving with Hot Swap and Fast Charging

With built-in hot swap capability, the S21 allows workers to replace batteries without powering down the device or interrupting active tasks. Fast charging reduces charging time, helping devices return to service more quickly during shift-based and extended frontline operations.

This helps retail, logistics, and field service workers minimize downtime and maintain a continuous workflow.

Capture More Accurate Visual Data with a 50MP Camera

The S21 features a 50MP PDAF rear camera to capture high-resolution images and visual data in the field. PDAF autofocus, flash, and HDR help deliver clear images in a range of lighting conditions, supporting proof of delivery, damage documentation, asset verification, and other documentation tasks. The 8MP front camera also supports video calls and remote collaboration, helping frontline workers and managers communicate more effectively.

Protect Valuable Assets with Secondary BLE

The S21's secondary BLE beacon works with BOS™ Device Finder to help locate misplaced or lost devices quickly. Even when the device is powered off, it can continue to transmit a BLE signal as long as battery power remains, enabling device location. This helps managers in large retail stores, warehouses, and field facilities reduce search time and help prevent asset loss.

Flexible Scan Engine Options for Every Workflow

The S21 offers a choice of barcode scan engines to meet a wide range of frontline data capture needs. The BE470 provides reliable barcode capture in a cost-effective configuration, while the SE4730 and SE4780 are suited for workflows that require higher-level scanning performance. For long-range data capture, the SE55 Flex Range scanner is available. With autofocus technology, the SE55 can quickly capture barcodes from items in hand to inventory on high shelves more than 10 m (40 ft.) away, helping retail and warehouse workers reduce movement and repetitive tasks.

Cost-Effective Upgrade with S20 Accessory Compatibility

Reuse existing S20 accessories to maximize your current investment when moving to the S21. Compatibility with proven accessories, including charging cradles, hand straps, and trigger handles, helps reduce deployment costs and operational complexity. A wide range of accessories also allows the S21 to be configured for intensive scanning, extended carrying, and other frontline workflows.

Extend Device Value and Workforce Productivity with BOS™

BOS™ software solutions make it easier to set up, deploy, and manage the S21 throughout its lifecycle. IT administrators can view multiple mobile devices from a single dashboard and manage access control for shared devices, users, and device groups. Built-in tools for data entry, voice communication, and Wi-Fi analysis also help improve worker productivity and device operational efficiency.

BOS™ Solutions & Software

- BOS™ Provisioning
- BOS™ Staging
- BOS™ Kiosk
- BOS™ Virtual key
- BOS™ Enterprise keyboard
- BOS™ Secure ID
- BOS™ EMM
- BOS™ VoIP, PTT, PTT Essential
- BOS™ Wi-Fine (Wi-Fi analyze application)

Third Party Solutions Integration

- EMM: Airwatch, MobileIron, Mobicontrol, Mass360, XenMobile

S21 Specifications

Performance Characteristics

CPU	2.6GHz Octa Core Processor
Operating System	Android 16 (Upgradeable to Android 18, 20)
Memory	6GB LPDDR5X RAM / 64GB UFS 3.1Flash 8GB LPDDR5X RAM / 128GB UFS 3.1Flash

Physical Characteristics

Dimensions (L x W x D)	165 x 76.9 x 12.5mm
Weight	243g with standard battery / 288g with extended battery
Display	6.0 Inch FHD+ (1080x2160), LED back-light (Default : 400 nits / Optional : 600 nits) Corning® Gorilla® Glass Victus 2
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
Backlight	LED backlight
Power	Rechargeable Li-Polymer, BOS™ PowerManager for real time battery management; Standard capacity 4000mAh / 15.4 Watt hours Extended capacity 6000mAh / 23.1 Watt hours
Hot swap	Supported
Quick Charging	fast charging; Supports Quick Charge
Expansion Slot	User accessible MicroSD supports up to 2TB
SIM / SAM	(WWAN SKU Only) 1 Nano SIM / 1 eSIM
Interface	Rear : 8-pin communication connector Bottom : USB-C 3.1 OTG, 2-pin Charging Connector
Notification	Audible tone; multi-color LEDs; Scan LED; vibration; Haptick Feedback multi-color LEDs (Top)
Keypad & Button	On-screen keypad and Enterprise Keyboard; Power button; Volume up/down buttons; Dual-action side scan buttons; Dedicated PTT button; Button of trigger handle via Back I/O. Top alert Button
Voice and Audio	Dual noise-cancelling microphones; Vibrate alert; High-quality Single speaker phone; PTT headset USB-C support; Bluetooth wireless headset support, SWB, cellular circuit switch voice; HD voice; HAC support
PTT Hot Key	Supports Dedicated PTT Button

Wireless Wan Data and Voice Communications

Radio Frequency Band	5G FR1: n1/2/3/5/7/8/12/13/14/20/25/26/28/29/30/38/40/41/48/66/70/71/75/76/77/78/79 4G: B1/2/3/4/5/7/8/12/13/14/17/18/19/20/25/26/28/29/30/32/34/38/39/40/41/42/43/48/ 66/68/70/71 3G: B1/2/4/5/6/8/19 2G: 850/900/1800/1900 Rel-16, Dual SIM/Dual Standby, Gigabit LTE-A, 5G NR Sub-6 (NSA, SA), LTE/NR Carrier Aggregation (CA), LTE CA - up to 3DLCA, 2ULCA, NR CA: Up to 3DL, 2UL; 4x4 DL MIMO7: 5G FR1: n1/2/3/ 7/25/30/38/40/41/48/66/70/77/78/79 4G LTE: 1/2/3/4/7/25/30/38/40/ 41/42/43/48/66/70 Private Cellular: B48/68
GPS	(WWAN SKU Only) 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

Wireless Lan

Radio	IEEE 802.11 a/b/g/n/ac/d/h/i/r/k/v/w/ax; 2x2 MU-MIMO; Wi-Fi™ 6E (801.11ax); Wi-Fi certified; Wi-Fi™ 6E Certified; Dual Band Simultaneous; IPv4, IPv6
Security and Encryption	WPA3 Enterprise 192-bit mode, GCMP256—EAP-TLS; WPA3 Enterprise, AESCCMP-128, GCMP-256—EAP-TTLS (PAP, MSCHAP, MSCHAPv2), EAP-TLS, PEAPv0-MSCHAPv2, PEAPv1-EAPGTC, EAP-PWD; WPA3 Personal (SAE, SAE-EXT), AES CCMP-128, GCMP-256; WPA/WPA2 Enterprise, TKIP and AES-CCMP-128; WPA/ WPA2 Personal (PSK), TKIP and AESCCMP-128; Enhanced Open (OWE), AES-CCMP-128, GCMP-256; WEP 40 bit and 104 bit; WAN only: EAP-SIM, EAP-AKA, EAP-AKA Prime

Wireless Pan

Bluetooth	Configurable Class 1 and 2; Bluetooth V6.0 with 2X2 Tx Chipset-enabled secondary BLE beaconing support

Wired Lan

Ethernet	Support (w/Ethernet Cradle - 1GHz)

Communication and Messaging

VoIP / PTT

Data Capture

Scanning	BE470 1D/2D Scan Engine SE4730 1D/2D Scan Engine, SE4780 1D/2D Scan Engine, SE55 1D/2D Scan Engine
Camera	Rear : 50 MP Autofocus; LED Flash, PDAF; Torch mode +HDR; Better low light performance; Front : 8MP Fixed, AR Core Certification
NFC	NFC ISO 14443 Type A and B; Mifare, FeliCa and ISO 15693 cards, Mifare Desfire EV1, EV2, EV3, NFC Forum tags 2,3,4,5; Host Card Emulation, Contactless Payment Support, VAS (Value Added Services) and Wallet support, Apple ECP1.0 and ECP2.0, Apple VAS and Google Smart Tap certified, VAS Library/SDK EMVCO Read Range 2 compliant
RFID	Short range integrated UHF RFID (Optional) - Up to 6.5 ft. (2 m) - Reads > 200 tags per second - EPC Class 1 Gen2; EPC Gen 2 V2 - EU 865-868 MHz and US 902-928 MHz

Sensor

Light Sensor	Ambient Light, Automatically adjusts display backlight brightness
Other Sensors	Proximity, accelerometer. Gyroscope, Pressure (WWAN only) eCompass (Not available in the base WLAN model)

User Environment

Operating Temp	-20°C to 50°C / -4°F to 122°F	
Storage Temp	-40°C to 70°C / -40°F to 158°F	
Humidity	5% to 95% non-condensing	
Drop Spec	Exceeds MIL-STD-810H	6 ft. (1.83 m) to concrete at Room temperature 5 ft. (1.52 m) to concrete at -4°F to +122°F (-20°C to +50°C)
	(With Rugged Case)	6.5 ft. (2.0 m) to concrete at Room temperature 6 ft. (1.83 m) to concrete at -4°F to +122°F (-20°C to +50°C)
Tumble Spec	1,000 tumbles 1.6 ft. /0.5 m (Rugged boot) 1000 tumbles 3.3 ft. /1.0 m tumbles w/Rugged Case	
Sealing	IP68 and IP65, with battery per applicable IEC sealing specifications	
Vibration	4 g's PK Sine (5 Hz to 2 kHz); 0.04g2/Hz Random (20 Hz to 2 kHz); 60 minute duration per axis, 3 axis	
Thermal Shock	-40° C to 70° C / -40° F to 158° F rapid transition	
Electrostatic Discharge (ESD)	+/- 20 kV air discharge +/- 8 kV direct discharge +/- 10 kV indirect discharge	

Software Solutions

BOS™	• BOS™ Provisioning; Staging • BOS™ Kiosk • BOS™ Virtual Key • BOS™ Wi-Fine (Wi-Fi analyze application)	• BOS™ Enterprise Keyboard • BOS™ VoIP ; PTT ; PTT Essential • BOS™ EMM • BOS™ Secure ID
3'rd Party Solutions Integration	• EMM : Airwatch , MobileIron , Mobicontrol, Mass360, XenMobile	

*Subject to terms of TSC hardware warranty statement, the S21 is warranted against defects in workmanship and materials for a period of 1 (one) year from the date of shipment.

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