ALTOS

Wi-Fi 7 ROUTER FOR 5G FIXED WIRELESS ACCESS

Enterprise

Smart city

ULTRA-FAST 5G

Enjoy lightning-fast broadband via 5G SA/NSA

NEXT-GEN WI-FI 7

Multi-gigabit Wi-Fi for seamless streaming and entertainment

SECURE BY DESIGN

User roles, advanced firewalls, VPNs, and WPA3 to keep networks safe

REMOTE MANAGEMENT

Zero touch deployment, fleet management, and remote device access

Mobile	
Mobile module	5G NR up to 4.0 Gbps DL / 900 Mbps UL; 4G LTE (CAT 19) up to 1.6 Gbps DL / 200 Mbps UL; 3G – 42 Mbps DL, 5.76Mbps UL
3GPP Release	Release 17
Status	IMSI, ICCID, operator, operator state, data connection state, network type, CA indicator, bandwidth, connected band, signal strength (RSSI), SINR, RSRP, RSRQ, EC/IO, RSCP, data sent/received, LAC, TAC, cell ID, ARFCN, UARFCN, EARFCN, MCC, and MNC
SMS	SMS status, SMS configuration, EMAIL to SMS, SMS to EMAIL, SMS to HTTP, SMS to SMS, scheduled SMS, SMS autoreply, SMPP
USSD	Supports sending and reading Unstructured Supplementary Service Data messages
Block/Allow list	Operator block/allow list (by country or separate operators)
Band management	Band lock, Used band status display
SIM PIN code management	SIM PIN code management enables setting, changing, or disabling the SIM card's PIN
APN	Auto APN
Bridge	Direct connection (bridge) between mobile ISP and device on LAN
Passthrough	Router assigns its mobile WAN IP address to another device on LAN

Wireless	
Wireless mode	802.11a/b/g/n/ac/ax/be (Wi-Fi 7), Dual Band, 2×2 MIMO, Access Point (AP)
Wi-Fi security	WPA-PSK, WPA2-PSK, WPA3-SAE, WPA-EAP, WPA2-EAP, WPA3-EAP, OWE; CCMP, TKIP ciphers
Wi-Fi users	Up to 128 simultaneous connections
Wireless QR code generator	Once scanned, a user will automatically enter your network without needing to input login information

Ethernet	
LAN	1 x LAN port 10/100/1000 Mbps, compliance with IEEE 802.3, IEEE 802.3u, 802.3az standards, supports auto MDI/MDIX crossover
WAN/LAN	1 x WAN/LAN port, 10/100/1000/2500 Mbps, compliance with IEEE 802.3, IEEE 802.3u, 802.3az standards, supports auto MDI/MDIX crossover

Network	
Routing	Static routing, Dynamic routing (BGP, OSPF v2, RIP v1/v2, EIGRP, NHRP), Policy based routing
Network protocols	TCP, UDP, IPv4, IPv6, ICMP, NTP, DNS, HTTP, HTTPS, SFTP, FTP, SMTP, SSL/TLS, ARP, VRRP, PPP, PPPoE, UPNP, SSH, DHCP, Telnet, SMPP, SNMP, MQTT, Wake On Lan (WOL)
VoIP passthrough support	H.323 and SIP-alg protocol NAT helpers, allowing proper routing of VoIP packets
Connection monitoring	Ping Reboot, Wget Reboot, Periodic Reboot, LCP and ICMP for link inspection
Firewall	Port forward, traffic rules, custom rules, TTL target customization
Firewall status page	View all your Firewall statistics, rules, and rule counters
Network topology	Visual representation of your network, showing which devices are connected to which other devices
DHCP	Static and dynamic IP allocation, DHCP relay, DHCP server configuration, status, static leases: MAC with wildcards
DDNS	Supported >77 service providers, others can be configured manually
Network backup	Mobile, VRRP, Wired options, each of which can be used as an automatic Failover
Load balancing	Balance Internet traffic over multiple WAN connections
Hotspot	Captive portal (hotspot), internal/external Radius server, Radius MAC authentication, SMS authorisation, SSO authentication, internal/external landing page, walled garden, user scripts, URL parameters, user groups, individual user or group limitations, user management, 9 default customisable themes and optionality to upload and download customised hotspot themes
SSHFS	Possibility to mount remote file system via SSH protocol
Traffic Management	Real-time monitoring, wireless signal charts, traffic usage history

Security	
Authentication	Pre-shared key, digital certificates, X.509 certificates, TACACS+, Internal & External RADIUS users authentication, IP & login attempts block, time-based login blocking, built-in random password generator
Firewall	Preconfigured firewall rules can be enabled via WebUI, unlimited firewall configuration via CLI, DMZ, NAT, NAT-T, NAT64
Attack prevention	DDOS prevention (SYN flood protection, SSH attack prevention, HTTP/HTTPS attack prevention), port scan prevention (SYN-FIN, SYN-RST, X-mas, NULL flags, FIN scan attacks)
VLAN	Port and tag-based VLAN separation
Mobile quota control	Custom data limits for SIM card
WEB filter	Blacklist for blocking out unwanted websites, Whitelist for specifying allowed sites only
Access control	Flexible access control of SSH, Web interface, CLI and Telnet
Certificate Manager	Let's Encrypt and SCEP certificate generation methods

VPN	
OpenVPN	Multiple clients and a server can run simultaneously, 27 encryption methods
OpenVPN Encryption	DES-CBC 64, RC2-CBC 128, DES-EDE-CBC 128, DES-EDE3-CBC 192, DESX-CBC 192, BF-CBC 128, RC2-40-CBC 40, CAST5-CBC 128, RC2-64-CBC 64, AES-128-CBC 128, AES-128-CFB 128, AES-128-CFB1 128, AES-128-CFB8 128, AES-128-OFB 128, AES-128-GCM 128, AES-192-CFB 192, AES-192-CFB1 192, AES-192-CFB8 192, AES-192-OFB 192, AES-192-CBC 192, AES-192-GCM 192, AES-256-GCM 256, AES-256-CFB 256, AES-256-CFB1 256, AES-256-CFB8 256, AES-256-OFB 256, AES-256-CBC 256
IPsec	XFRM, IKEv1, IKEv2, with 14 encryption methods for IPsec (3DES, DES, AES128, AES192, AES256, AES128GCM8, AES192GCM8, AES256GCM8, AES128GCM12, AES192GCM12, AES256GCM12, AES128GCM16, AES192GCM16, AES256GCM16)
GRE	GRE tunnel, GRE tunnel over IPsec support
PPTP, L2TP	Client/Server instances can run simultaneously, L2TPv3, L2TP over IPsec support
Stunnel	Proxy designed to add TLS encryption functionality to existing clients and servers without any changes in the program’s code
DMVPN	Method of building scalable IPsec VPNs, Phase 2 and Phase 3 and Dual Hub support
SSTP	SSTP client instance support
ZeroTier	ZeroTier VPN client support
WireGuard	WireGuard VPN client and server support
Tinc	Tinc offers encryption, authentication and compression in it's tunnels. Client and server support.
Tailscale	Tailscale offers speed, stability, and simplicity over traditional VPNs. Encrypted point-to-point connections using the open source WireGuard protocol

BacNET	
Supported modes	Router
Supported connection types	USB, TCP
Configuration options	Support for multiple BACnet/IP interfaces, Network number assignment, Preconfigured BDT entries for BBMD (BACnet Broadcast Management Device)

OPC UA	
Supported modes	Client, Server
Supported connection types	TCP

MODBUS	
Supported modes	Server, Client
Supported connection types	Client
Custom registers	MODBUS TCP custom register block requests, which read/write to a file inside the router, and can be used to extend MODBUS TCP Client functionality
Supported data formats	8-bit: INT, UINT; 16-bit: INT, UINT (MSB or LSB first); 32-bit: float, INT, UINT (ABCD (big-endian), DCBA (little-endian), CDAB, BADC), HEX, ASCII

Data to Server	
Protocol	HTTP(S), MQTT, Azure MQTT
Data to server	Extract parameters from multiple sources and different protocols, and send them all to a single server; Custom LUA scripting, allowing scripts to utilize the router's Data to server feature

Modbus MQTT GATEWAY	
Modbus MQTT Gateway	Allows sending commands and receiving data from MODBUS Server through MQTT broker

DNP3	
Supported modes	Station, Outstation
Supported connection types	TCP, USB

DLMS/COSEM	
DLMS Support	DLMS - standard protocol for utility meter data exchange
Supported modes	Client
Supported connection types	TCP

API	
Teltonika Networks Web API (beta) support	Expand your device's possibilities by using a set of configurable API endpoints to retrieve or change data. For more information, please refer to this documentation: https://developers.teltonika-networks.com

Monitoring & Management	
WEB UI	HTTP/HTTPS, status, configuration, FW update, CLI, troubleshoot, multiple event log servers, firmware update availability notifications, event log, system log, kernel log, Internet status
FOTA	Firmware update from server, automatic notification
SSH	SSH (v1, v2)
SMS	SMS status, SMS configuration
Call	Reboot, Status, Mobile data on/off, Output on/off, answer/hang-up with a timer, Wi-Fi on/off
Email	Receive email message status alerts of various services
TR-069	OpenACS, EasyCwmp, ACSLite, tGem, LibreACS, GenieACS, FreeACS, LibCWMP, Friendly tech, AVSystem
MQTT	MQTT Broker, MQTT publisher
SNMP	SNMP (v1, v2, v3), SNMP Trap, Brute force protection
JSON-RPC	Management API over HTTP/HTTPS
RMS	Teltonika Remote Management System (RMS)

IoT Platforms	
ThingWorx	Allows monitoring of: WAN Type, WAN IP, Mobile Operator Name, Mobile Signal Strength, Mobile Network Type
Cumulocity - Cloud of Things	Allows monitoring of: Device Model, Revision and Serial Number, WAN Type and IP, Mobile Cell ID, ICCID, IMEI, Connection Type, Operator, Signal Strength. Has reboot and firmware upgrade actions.
Azure IoT Hub	Can be configured with Data to Server to send all the available parameters to the cloud. Has Direct method support which allows to execute RutOS API calls on the IoT Hub. Also has Plug and Play integration with Device Provisioning Service that allows zero-touch device provisioning to IoT Hubs
AWS IoT Core	Utility to interact with the AWS cloud platform. Jobs Support: Call the device's API using AWS Jobs functionality

System Characteristics	
CPU	Qualcomm
RAM	1GB LPDDR4
FLASH storage	8GB eMMC

Firmware/Configuration	
WEB UI	Update FW from file, check FW on server, configuration profiles, configuration backup
FOTA	Update FW
RMS	Update FW/configuration for multiple devices at once
Keep settings	Update FW without losing current configuration
Factory settings reset	A full factory reset restores all system settings, including the IP address, PIN, and user data to the default manufacturer's configuration

FIRMWARE CUSTOMISATION

Operating system	RutOS (OpenWrt based Linux OS)
Supported languages	Busybox shell, Lua, C, C++
Development tools	SDK package with build environment provided
GPL customization	You can create your own custom, branded firmware and web page application by changing colours, logos, and other elements in our firmware to fit your or your clients' needs
Package Manager	The Package Manager is a service used to install additional software on the device

Power

Connector	Barrel jack
Input voltage	12 VDC
Power consumption	Idle: < 8 W, Max: < 24 W

Physical Interfaces

Ethernet	1 x RJ45 port, 10/100/1000 Mbps, 1 x RJ45 port, 10/100/1000/2500 Mbps
Telephone	1 x RJ11 port
Status LEDs	1 x Power, 1 x Wi-Fi, 2 x Mobile connection type, 2 x LAN status
SIM	1 x SIM slots (Nano SIM - 4FF)
Power	1 x Barrel socket
Antennas	6 x Mobile internal antennas, 2 x Wi-Fi internal antennas
USB	1 x Virtual network interface via micro USB
Power	Power/WLAN Button
Reset	Reboot/User default reset/Factory reset button

Physical Specification

Casing material	Plastic panels
Dimensions (W x H x D)	Ø 100 mm x 185 mm
Weight	720 g
Mounting options	Flat surface placement

Operating Environment

Operating temperature	0 °C to 45 °C
Operating humidity	5% to 95% non-condensing
Ingress Protection Rating	IP30

Regulatory & Type Approvals

Regulatory	CE, UKCA, EAC, UCRF, RCM, CB, WEEE

EMC Emissions & Immunity

Standards	EN 55032:2015+ A11:2020 + A1:2020 EN 55035:2017+A11:2020 EN 301 489-1 V2.2.3 EN 301 489-3 V2.3.2 EN 301 489-17 V3.2.4 EN 301 489-52 V1.2.1

RF

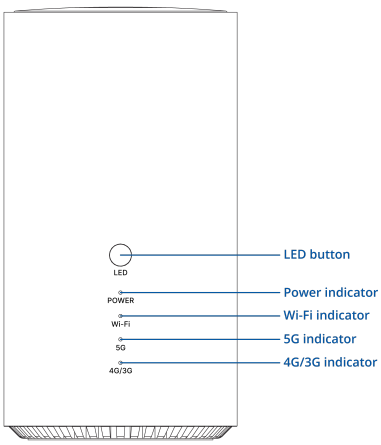
Standards	EN 300 328 V2.2.2 EN 301 893 V2.1.1 EN 301 908-1 V15.2.1 EN 301 908-2 V13.1.1 EN 301 908-13 V13.3.1 EN 301 908-25 V15.1.1

Safety

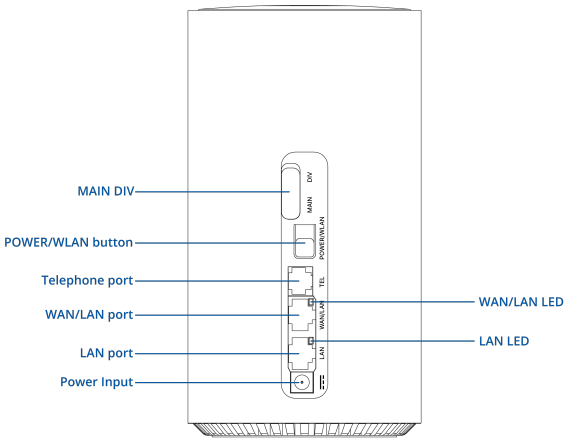
Standards	CE: EN IEC 62311:2020 RCM: AS/NZS 62368.1:2022 CB: EN IEC 62368-1:2020+A11:2020

Hardware

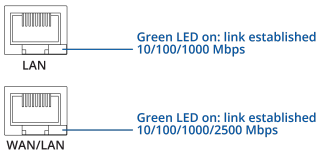
FRONT VIEW



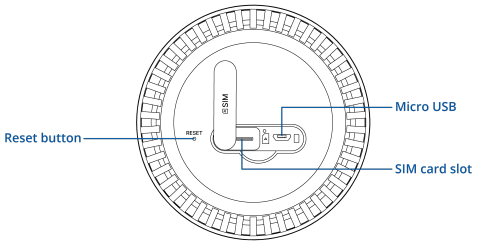
BACK VIEW



RJ45 LED MEANING



BOTTOM VIEW



Ordering

Standard package*

ALTOS

QUICK START GUIDE

POWER CONNECTOR

*Standard package contents may differ based on standard order codes.

For more information on all available packaging options – please contact us directly.

Classification codes

HS Code: 851762

HTS: 8517.62.00

Available versions

CAP700 0***** EMEA[1]	**5G NR:** n1, n3, n5, n7, n8, n20, n28, n38, n40, n41, n71, n75, n76, n77, n78, n79 **LTE:** B1, B3, B5, B7, B8, B20, B28, B32, B38, B40, B41, B42, B43, B71 **UMTS:** B1, B3, B5, B8	CAP700000000 / Standard package with EU PSU

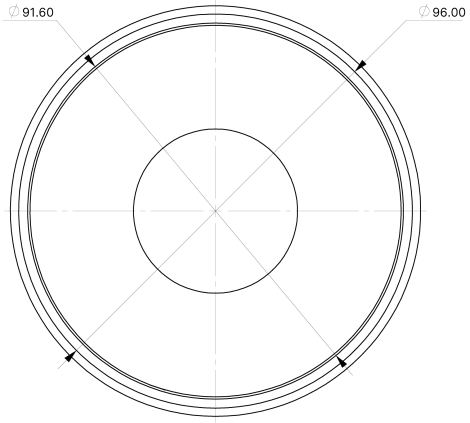
Altos spatial measurements

Available versions

Device housing (W x H x D)	Ø 100 mm x 185 mm
Box (W x H x D):	105 x 250 x 105 mm

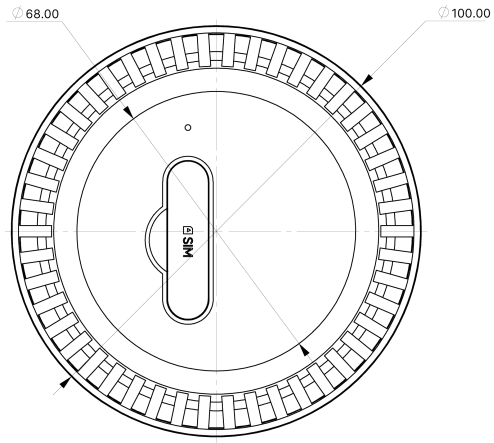
TOP VIEW

The figure below depicts the measurements of ALTOS and its components as seen from the top:



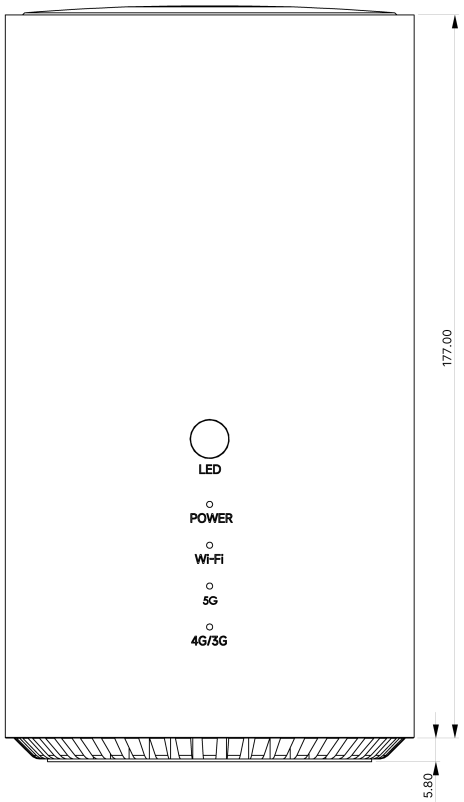
BOTTOM VIEW

The figure below depicts the measurements of ALTOS and its components as seen from the bottom side:



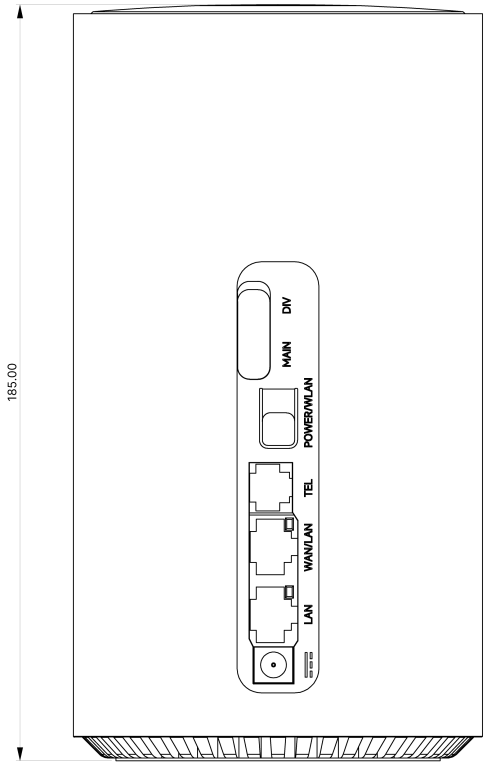
FRONT VIEW

The figure below depicts the measurements of ALTOS and its components as seen from the front side:



BACK VIEW

The figure below depicts the measurements of ALTOS and its components as seen from the back side:



MOUNTING SPACE REQUIREMENTS

The figure below depicts an approximation of the device's dimensions when cables and antennas are attached: