OMNIA 4G

HI-PERFORMANCE DUAL CONNECTIVITY & OPEN SOURCE ROUTER

OPEN SOURCE

Open hardware running free operating system based on OpenWrt. It enables you to make your own software modifications and secures you top-level privacy. Having full schematics guarantees that you know what is inside. No backdoors, no calling home.

We are able to deliver our router as a white label device, and even do some hardware modifications according to customer's demands. You can upload your own software too.

PERFORMANCE

High power dual-core ARMv7 CPU at 1.6 GHz, 2 GB RAM and 8 GB eMMC means PC-like performance. The device is designed for high load and long lifespan.

SECURITY

Secure default configuration, easy setup and automatic updates. We also run a farm of honeypots, which simulates a running system and observe would-be attackers. It is possible to easily configure Omnia to redirect specific traffic to the honeypot and get records of caught attackers and their actions. And it is completely safe because the honeypot runs on our server, not on your device.

OpenVPN setup is also possible so you can safely reach your files, stored at home, remotely or make secure connection on public Wi-Fi networks.

NEVER ENDING IMPROVEMENTS

Thanks to automatic updates and growing active community, Omnia receives new features and improvements very often. Unlike common routers, our device is getting better through the time.

HIGH THROUGHPUT NETWORK SETUP

Omnia has three gigabit interfaces in the processor. Thanks to good HW design you can reach a full gigabit speed in a full duplex mode between WAN and LAN. This means your router will not slow down your Internet connection. You can also dedicate one gigabit line to a single LAN port via a VLAN to guarantee its speed in presence of other traffic.

EXTENSIBILITY

You can extend the device to work as a DLNA server, add a DVB-T tuner to stream television signal through your network, add a USB sound card or use it as an Internet radio. We even have a how-to for using a web camera as a simple burglar alarm with automatic emailing of photos. Connection of devices like thermostats, security and weather sensors, RaspberryPi, Arduino and other IoT devices is also possible. Omnia has huge HW and endless SW extensibility like:

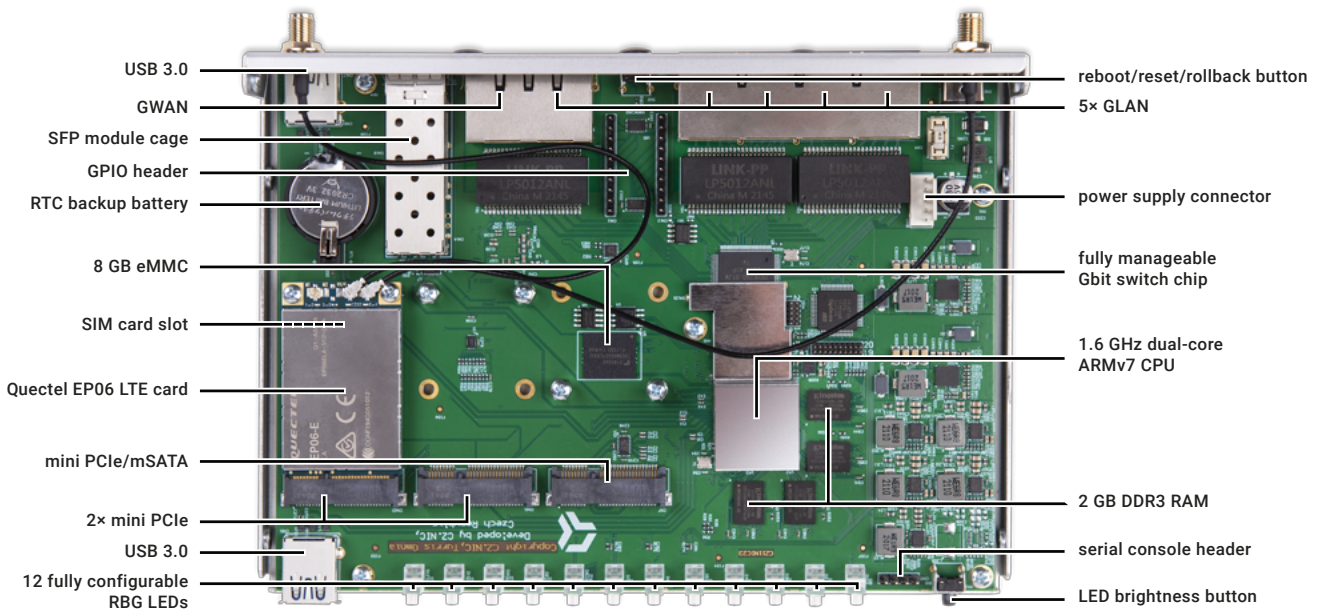### NAS (Network Attached Storage)

Thanks to three miniPCIe ports, one mSATA, two USB 3.0 ports and powerful CPU, you can built your home made NAS with performance comparable to dedicated NAS boxes, thus saving you money for running an extra device. There is enough performance to make your own cloud service.

Backup and dual connectivity

You can connect to the Internet via fiber (using built-in SFP), twisted pair or LTE (by using additional USB or miniPCIe modem — SIM slot is on board). You can also balance between various means of connectivity either manually or automatically using available packages.

LXC virtualization[1]

Virtualization is a common feature on modern servers. It helps organize software, adds new features, improves security by splitting important and less important systems, etc. Because Turris Omnia has enough power and RAM, we decided to add support for virtualization into the core system and prepared several virtual machines for easy download and setup. The virtual server serves as a normal LAN connected computer and you can run any Linux you want on it — even Ubuntu or Debian. This makes experimentation with new software extra simple and safe.

USB 3.0
GWAN
SFP module cage
GPIO header
RTC backup battery
8 GB eMMC
SIM card slot
Quectel EP06 LTE card
mini PCIe/mSATA
2× mini PCIe
USB 3.0
12 fully configurable RBG LEDs

reboot/reset/rollback button
5× GLAN
power supply connector
fully manageable Gbit switch chip
1.6 GHz dual-core ARMv7 CPU
2 GB DDR3 RAM
serial console header
LED brightness button

Turris Omnia 4G: motherboard components

Hardware Specification	
CPU	Marvell Armada 385, dual-core 1.6 GHz
Memory	2 GB DDR3
Storage	8 GB eMMC
LAN Port	5× 10/100/1000 Mbps (RJ-45)
WAN Port	1× 10/100/1000 Mbps (RJ-45) + SFP up to 2.5 Gb
External Ports	2× USB 3.0 (5 V, 1.5 A power output)
Internal Interfaces[2]	1× UART (4 pins header) 1× miniPCIe/mSATA 1× miniPCIe (without USB and SIM Lock) 1× miniPCIe (with USB and SIM Lock) 1× 5 pin Power connector (3 V, 5 V, 12 V) for SATA drives 2× 10 pin GPIO connector (GPIO, SPI, I2C, UART) 1× 20pin JTAG (CPU) 1× 10 pin Programming connector (MCU)
Button and Switch	Reset, LED intensity
Appearance	
Dimensions	190 × 190 × 180 mm
Weight	1010 g
Power Supply	
AC Input	100–240 V / 1.0 A
Power Frequency	50 / 60 Hz, Single Phase
DC Output	12 V / 3.33 A
Power Consumption	5–40 W max (depends on connected peripheries)
Temperature	
Operating Temperature	0 °C to 40 °C (40 °F to 104 °F)
Storage Temperature	-20 °C to 60 °C (-5 °F to 140 °F)
Relative Humidity	10 % to 90 % RH
Certification	CE
Warranty	2 years

Network	
Internet Connection	By default: Dynamic IP, Static IP, PPPoE; other via CLI
Port Forwarding	Setup via web UI or via SSH
Maximum Port Forwarding Rules	Unlimited[3]
Maximum UPnP Rules	Unlimited[3]
Port Triggering	
Maximum Port Triggering Rules	Unlimited[3]
Minimum Port Triggering Timeouts	Unlimited[3]
DMZ	Yes
Network Standards	IPv4, IPv6 (DHCPv6 client, server, prefix delegation and RA) by default, OSPF, BGP, NAT64 and DN64 by packages
DHCP	Server/client mode, client list, MAC address reservation
Maximum DHCP Reservations	Unlimited[3]
LAN/WLAN IGMP Snooping	
VPN	OpenVPN Server/Client directly in WebUI Wireguard and IPSec via CLI/LuCI
LTE	
LTE modem	Quectel EP-06-E category 6
Maximum Download	300 Mbps
Maximum Upload	50 Mbps
Region	EMEA
Policy Route, Static Route, Network Address Translation (NAT), PPPoE Relay	
Maximum IPv4 Static Rroutes	Unlimited[3]
Maximum IPv6 Static Routes	Unlimited[3]
Diagnosis Tools	Any Linux package
Management	
Operating System	Turris OS, open source, based on OpenWrt, endless SW extensibility by Linux packages
Free OS Upgrade	Frequent automatic security and feature updates
Remote Access	VPN, SSH
Operation Modes	Router, Wireless AP, Wireless Client, Standalone Server
Maximum Connected Devices	Unlimited[3]
Notification	E-mail, WebUI
SSH	Yes
SNMP	By third party packages
Configuration, Backup & Restore	Yes, simple Foris UI, advanced LuCI or SSH, UART serial bus accesible, easy reflash from USB drive or Internet Optional backup to your own server via SFTP/Webdav
Parental Control	
Customized Internet Schedule	Via advanced user interface LuCI
DNS-based Web-filter with Built-in Database, Customized Allow/Block List	Via third party application installable into LuCI
Maximum Devices	Unlimited[3]
Maximum Blocked URLs	Unlimited[3]
Maximum Allowed URLs	Unlimited[3]

Traffic Control	
Internet Ban, Device Speed & Priority	Yes
Maximum Device Rules	Unlimited[3]
Maximum Application Rules per Device	Unlimited[3]
Traffic monitoring with history	Yes, using deep packet inspection
Security	
Wi-Fi Encryption	WEP, WPA/WPA2/WPA3-Personal, WPA/WPA2/WPA3-Enterprise
Wi-Fi MAC Address Filter	Yes
Firewall/SPI Firewall	Yes, with unlimited settings[3]
Cybersecurity features	Yes, optional central-maintained, dynamic firewall, netflow monitoring and basic IDS integration
Special Security Features	Honeypots and minipots that are getting informations about attacker and share them with other Turris routers
File Service	
File System	EXT2/3/4, Btrfs, FAT, NTFS, HFS+, exFAT (depending on installed packages)
Access Support	Web browser, SSH
Protocol Support	SMB, DLNA, FTP/FTPS/SFTP, WebDAV
Apple Time Machine Support	Via third party application installable into LuCI
Shared Folder Privileges	Manageable by Linux permissions
Storage Hibernation	Yes
DNS Server	Based on high quality, secure and high performance Knot DNS resolver with DNSSEC
Download Protocols	Support depending on installed packages
Maximum Concurrent Download Tasks	Unlimited[3]
Maximum Concurrent BT Download Tasks	Unlimited[3]
Media Server (DLNA/UPnP)	Yes
RADIUS Server	Via CLI
Maximum Connections	Unlimited[3]
Packaging	
Packaging Content	Main Unit, User manual, Power adapter, 2× Power cable, Ethernet cable, Wall mounting bracket, 2× LTE Antenna

[1] Make sure to either configure your containers properly or to use external device for storage as excessive writes can irreparably damage your router.

[2] You can use the two miniPCIe slots for any use – Wi-Fi, storage, etc.

[3] No artificial limit imposed, but limited by the available hardware resources. These are, however, plentiful and unlikely to be exhausted in any common setups.

1) Power connector
2) LAN interface connectors
3) RESET button
4) WAN interface connector
5) SFP interface connector
6) USB 3.0
7) LTE antenna connectors