Wi-Fi 5 ETHERNET ROUTER

i4850-series
Residential Router

The Icotera i4850 residential Ethernet router integrates Ethernet-based gigabit data transmission with Layer 2-4 functionality, VoIP, 802.11ac and 802.11b/g/n Wi-Fi, and USB 3.0.

• State of the art 4x4 Wave 2 MU-MIMO Wi-Fi
• Ease of use and installation
• Vendor independent
• Award-winning industrial design
• Lowest total cost of ownership

Powerful hardware architecture
The Icotera i4850 Ethernet router demonstrates its great strength by bringing together a wide feature set and flawless performance. Its foundation is built on a powerful, cutting-edge dual-core architecture. This, paired with an ASIC for packet forwarding, ensures the platform is always ready to cope with additional tasks while processing VoIP, Gigabit routing of IPv4 with NAT, IPv6 and stateful filtering, traffic switching/bridging and high-speed Wi-Fi.

Next-generation Wi-Fi solution
With Wi-Fi becoming the preferred communication technology inside the home, the need for fast and stable wireless connections is becoming ever more important. The i4850 delivers not only backwards compatibility with any 802.11a/b/g/n Wi-Fi-certified device, but also includes the very latest standard — 802.11ac. With the added 802.11ac Wave 2 solution, the i4850 is capable of delivering 1733+300 Mbps and throughput which combined with MU-MIMO can deliver more than 1 Gbps in real home and office environments.

Innovative feature set
The i4850 provides exceptional Layer 2 functionality that can effortlessly handle 16 bridging instances, 8 Wi-Fi access points over 2 radios, multiple WAN interfaces, PPPoE and in-band secure management.

Ease of control
A great variety of management protocols (such as SNMP v1/v2, Syslog, SSH, Telnet, and TR-069) is integrated and supported, which guarantees effortless control over the i4850. Paired with our fail-proof, zero-touch auto-provisioning mechanism, they provide easy and trouble-free daily operations. To guarantee trouble-free firmware roll-outs, in harsh network environments, the i4850 also comes with dual-bank flash memory.

Icotera

i4850 Residential Router

FEATURES

- Best-in-class Wi-Fi 5 solution
- Vendor-independent
- Award-winning industrial design
- Low power consumption
- Optional operator branding
- Customized firmware
- Wi-Fi link rate up to 2.1 Gbps

NETWORK COMMUNICATION
WAN INTERFACE

- 1G WAN (RJ45)
- Full-duplex transmission
- Auto-negotiation for speed and duplex
- Energy-Efficient Ethernet (EEE)

LAN INTERFACE

- 4x 1G LAN
- Auto-negotiation for speed and duplex
- Integrated cable tester to detect the following metrics:
  - Short
  - Open
  - Impedance mismatch
  - Cable length

Wi-Fi INTERFACES

- Authentication methods:
  - Open
  - WEP64
  - WEP128
  - WPA
  - WPA2
- MAC address filtering
- Advanced channel selection
- Software Tx power control
- Wireless client isolation
- Band steering
- Neighbour scanning
- Meshing - a built-in controller for Icotera i3550 access points
- Client roaming
- Airtime management

Wi-Fi 5

- 4x4 Wave 2 MU-MIMO
- 5 GHz band with 256-QAM and 80 MHz
- Beamforming
- LDPC + STBC

Wi-Fi 4

- 802.11b/g/n 2x2:2 MIMO
- 2.4 GHz band with 64-QAM and 40 MHz

LAYER 2

- 16 bridge instances
- 64 byte forwarding at line rate
- Jumbo 9k packets
- IGMP v1/v2 snooping
- 802.1p marking
- VLAN support
- Wi-Fi support
- Transparent IPv6 forwarding
- DHCP relay with option 82
- 2k address entries
- Flexible L1 and L3 access control lists

LAYER 3

- Virtual interfaces
- Multiple WAN interfaces in one router
- 64 byte forwarding at line rate with routing/NAT
- IGMP v1/v2 proxy with fast-leave and monitoring
- Stateful Firewall
- IPv4:
  - SNAT, DNAT, DMZ
  - DNS proxy
  - DHCP client and server
- IPv6:
  - Prefix delegation
- Supports routing for IPv4 and IPv6
- PPPoE (termination)
- Tracking the connection status in the CLI
- RTSP stateful proxy
- Protocol helpers for: SIP, RTSP, FTP, TFTP, PPTP, L2TP, and IPSec
- Up to 32K NAT/NAPT flows depending on the scenario used (IPv4, DS-Lite, PPPoE, SIP, L2TP)
- Guest access

USB

- 1 x USB 3.0 host port (reserved for future use)
- 1 x USB 2.0 host port (reserved for future use)

QoS

- Support for 8 configurable upstream queues
- Layer 2 and 3 QoS features:
  - Packet classification marking
  - Queuing
  - Scheduling
  - Rate-limiting
- Marking and queuing with 802.1p, ToS, DiffServ classification
- Globally shared rate-limiting queues

VoIP (OPTIONAL)

- 2 separate POTS lines SIP (RFC3261)
- Up to 5 ringer equivalence numbers (REN)
- DTMF signaling for SIP INFO, inband, auto, and RFC 2833
- Caller ID support (DTMF/FSK)
- CLIR
- Advanced dialplan
- Called party (B-Number) manipulation
- Class 5 services:
  - Forward all calls
  - Forward on busy
  - Forward on no answer
  - Call waiting
- Codecs: G.711A a-law, G.711U μ-law, G.722, and G.729
- Codec negotiation
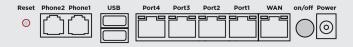- Modemo or fax detection
- G.165 echo cancellation

MANAGEMENT & MONITORING

- Shared or separate IP interface for management
- Configurable web interface for end users:
  - PPPoE WAN
  - Wi-Fi
  - Guest network
  - LAN network
  - Port forwarding
  - NAT loopback
  - DMZ
  - DynDNS
  - Status and monitoring
- Monitoring via telemetry streaming (ICONS)
- L1 and L3 filters for all local services
- SSHv2 with key authentication
- Zero-touch provisioning with DHCP, TFTP, HTTP, FTP, or TR-069
- TR-069 with TLS:
  - TR-104 (VoIP)
  - TR-181 (Network)
- SNMP v1/v2
- CLI with auto-completion
- Extensive debug possibilities
- Packet dumping
- All settings are stored locally in flash memory
- Automatic firmware and configuration update (polling)
- Dual bank flash memory with fail-safe firmware upgrading
- LED indicators brightness configurable by operators or end users
- Hardware watchdog
- Wake-on-LAN for the web interface and CLI

OPERATIONAL SPECIFICATIONS

- DC 12 V input
- Power consumption maximum: 26.5 W
- Power consumption in idle state: 6.8 W
- Operating temperature: 5°C – 45°C
- Storage temperature: -20°C – 85°C
- Humidity: 5% – 95% (non-condensing)

PHYSICAL SPECIFICATIONS
CASING

- Weight: 500 g
- Size: 215 x 215 x 50 mm (W x H x D)
- Front LED indicators configurable by operators or end users.
  - Power or WAN status such as link, traffic, or provisioning
  - VoIP ports
  - Wi-Fi
- Status LED indicators for link, traffic, and duplex for each LAN port
- WPS button

INCLUDED IN THE BOX

- Icotera i4850 gateway
- 12 V power supply unit
- Additional label with Wi-Fi credentials
- Ethernet cable

ESG and SUSTAINABILITY

Product data aligns with the European Sustainability Reporting Standards (ESRS).
Icotera CO2 reduction targets are approved by the Science Based Target initiative (SBTi).

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

By 2030, Icotera will reduce the scope 1 and 2 greenhouse gas (GHG) emissions by 42%.

Climate (ESRS E1)
- Product footprint (cradle-to-gate): 23,2 kg CO2

Pollution (ESRS E2)
- Less than 0.1% of hazardous substances in raw materials
- Less than 0.1% of flame retardants or plastic softeners in plastic parts
- Halogen-free printed circuit boards
- Packaging: plastic-free, PE bag-free, 95% recycled cardboard
- Compliance with RoHS and the Swedish chemical tax rate for electrical equipment

Social (ESRS S2)
- Suppliers comply with the Icotera Supplier Code of Conduct: https://bit.ly/icotera-code

Distribution (ESRS E1)
- The CO$_2$ data on logistic solutions (ESRS E1) is available on request

Use
- Power consumption complies with the European Ecodesign Directive 2009/125/EC

Refurbishment (ESRS E5)
- Refurbishment service available

End of life (ESRS E5)
- Disassemblable for recycling
- WEEE producer and packaging responsibility is handled through Elretur and Emballageretur

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Icotera i4850 residential router configuration possibilities

Reset Phone2 Phone1 USB Port4 Port3 Port2 Port1 WAN on/off Power

Gateway interface configurations

Model	Uplink	LAN	USB	POTS	Wi-Fi	Antennas
i4850-20	1G WAN (RJ45)	4x 1G LAN	2x	2x	802.11b/g/n + 802.11ac	2x2 + 4x4 Int.
i4850-25	1G WAN (RJ45)	4x 1G LAN	-	-	802.11b/g/n + 802.11ac	2x2 + 4x4 Int.

For more information and feature requests, contact our Sales department at sales@icotera.com.