

GPON FTTH ONT

i5800-series Residential ONT

The Icotera i5800 residential ONT integrates optical Ethernet-based gigabit data transmission with Layer 2-4 functionality, VoIP, 802.11ac & bgn Wi-Fi, CATV and USB 3.0.

- Best-in-class Wi-Fi
- Ease of use & installation
- Vendor independent
- Smart Home platform
- Award-winning industrial design
- Lowest Total Cost of Ownership



Powerful hardware platform

The Icotera i5800 fiber gateway 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 becomes ever more important. The i5800 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 solution, the i5800 is capable of delivering 867+300 Mbps and more than 650 Mbps of combined throughput in real home and office environment.

Innovative feature set

The i5800 provides exceptional Layer 2 functionality that can effortlessly handle 16 bridging instances, 16 Wi-Fi APs over 2 radios, multiple WAN interfaces, PPPoE and in-band secure management. The CATV AGC receiver offers broadband cable-television services to the subscriber with seamless monitoring and configuration of the power levels. As an optional feature,

this fiber gateway offers a complete and customizable filter solution with low-pass filters for individual RF channel plans.

Ease of control

A great variety of management protocols (e.g. OMCI v2, SNMP v1/v2, syslog, SSH, Telnet and TR-069) is integrated and supported, which guarantees effortless control over the i5800. Paired with our fail-proof, zero-touch auto provisioning mechanism, they provide easy and trouble-free daily operations. To guarantee effortless firmware roll-outs, in harsh network environments, the i5800 series also comes with dual-bank firmware.

Integrated Smart Home platform

The i5800 GPON ONT supports the unique Icotera Smart Home platform via state-of-the-art low-consuming wireless technology. The platform offers great solutions for end-users within Alarm & Surveillance, Energy Management and Home automation. The cloud-based platform connects to third party device-hardware, which makes the possibilities for connecting devices close to endless. For the network operator or service provider, the platform offers a unique opportunity for additional revenue streams and higher customer loyalty. The Icotera Smart Home platform is deeply integrated into the Icotera gateway, which makes the daily use effortless and very valuable for the modern household.

i5800 Residential ONT

FEATURES

- Best-in-class Wi-Fi solution
- Vendor-independent
- Award-winning industrial design
- Integrated CATV solution
- Low power consumption
- Optional operator branding
- Extensive IPv6 support
- Customized firmware
- Built-in Smart Home platform

NETWORK COMMUNICATION

GPON INTERFACE

- Data rate of 1.244Gbps/2.488Gbps (US/DS)
- Wavelength : TX 1310nm, RX 1490nm
- G.984.1,2,3,4,5 compliant
- Prepared co-existence for NG-PON
- OMCIv2 G.988 compliant
- Forward Error Correction (FEC)
- Ethernet GEM support
- Multiple T-CONTs/GEM ports per device
- AES encryption
- Dying Gasp
- Class B+ optics
 - Output level from +3 to +6dBm
 - Receiver sensitivity -30.5dBm

LAN INTERFACE

- 4 RJ45 connectors 10/100/1000 Base T(X)
- Auto-negotiation for speed and duplex
- Auto MDI/MDX
- Jumbo packets
- 802.1x
- Cable tester, detects:
 - Short
 - Open
 - Impedance mismatch
 - Cable length

LAYER 2

- 16 bridge instances
- 64byte forwarding at line rate
- Jumbo 9k packets
- IGMP v1/v2/v3 snooping
- 802.1p marking
- VLAN support
- Wi-Fi support
- Transparent IPv6 forwarding
- DHCP relay with option 82
- 2k address entries

Wi-Fi INTERFACES

802.11ac Wi-Fi

- 2T2R MIMO
- 5GHz band w/QAM256 and 80MHz
- Authentication methods - Open - 802.1x - WEP64 - WEP128 - WPA WPA2
- Up to 8 SSIDs
- MAC filtering
- Internal antennas (external optional)
- Automatic channel selection
- Software Tx power control
- Extensive monitoring
- Neighbor scanning
- Beamforming

802.11bgn Wi-Fi

- 802.11B/G/N 2T2R MIMO
- 2.4GHz band w/QAM64 and 40MHz
- Authentication methods - Open - 802.1x - WEP64 - WEP128 - WPA - WPA2
- Up to 8 SSIDs
- MAC filtering
- Internal antennas (external optional)
- Automatic channel selection
- Software Tx power control
- Extensive monitoring
- Neighbor scanning

LAYER 3

- Virtual interfaces
- Multiple WAN interfaces in one router
- 64 byte forwarding at line rate with routing/NAT
- IGMP v1/v2/v3 proxy with fast-leave and monitoring
- Stateful Firewall
- IPv4 - SNAT, DNAT, DMZ - DNS proxy - DHCP client and server
- IPv6 - Prefix delegation RFC3769 - 6RD - DHCP client and server - DS-Lite - Auto-configuration PPPoE (termination)
- 2k HW connection tracking
- SW connection tracking
- RTSP stateful proxy
- Protocol helpers for: SIP, FTP, TFTP

QoS

- 8 queues
- Layer 2 and 3 QoS features - Packet classification marking - Queuing - Scheduling - Rate-limiting
- Marking and Queuing w/ 802.1p, ToS, DiffServ classification
- Globally shared rate-limiting queues

VOIP

- 2 separate POTS lines SIP (RFC3261)
- 5 REN support
- DTMF signalling - SIP INFO - Inband - Auto - RFC 2833
- DNS SRV
- Caller ID support (DTMF/FSK/DTMF DK)
- CLIR
- Advanced dialplan
- 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 - G.729AB - G.726 - G.723-1
- Modem/Fax detection
- 3-way conference call
- Auto gain control
- Adaptive jitter buffer 10-300ms
- Silence suppression
- G.165 Echo Cancellation
- LEC (Line Echo Cancellation) 2- 128ms
- VAD (Voice Activity Detection)
- CNG (Comfort Noise Generation)
- PLC (Packet Loss Concealment)

USB

- 1x USB 2.0 host
- 1x USB 3.0 host

CATV (OPTIONAL)

OPTICAL PARAMETERS

- Saturation power: +2 dBm
- Input level range: -10 to 0 dBm
- Input wave length: 1550 - 1560 nm
- Reject band Isolation 1260-1530 + 1574-1675 nm: >30 dB
- Optical return loss: 40 dB
- Power meter accuracy: +/- 0.5 dB
- Power meter steps: 0.1 dB
- Responsivity typ. @1550 nm: 0.9 A/W
- Low-signal LED configurable 1 dB steps: -13 to 0 dBm.

RF PARAMETERS

- Impedance: 75 Ohm
- Frequency range: 45 to 870 MHz, Optional 45 to 1200 MHz
- Multiple software controlled AGC levels
 - AGC output @-6 - 0dBm: 85 dBuV
 - AGC output @-9 - 0dBm: 80 dBuV
 - Max RF output @0 dBm: 98 dBuV

- Tilt typ: 2 dB
- Variance: +/- 1.2 dB
- Output RL (S11): EN 50083-3 cat. C
- EIN @0dBm typ.: 3.4 pA/(HZ)
- CNR: (CENELEC 42ch) >= 55 dB
- CSO: (CENELEC 42ch) >= 60 dBc
- CTB: (CENELEC 42ch) >= 60 dBc
- Cspur: (CENELEC 42ch) >= 60 dBc
- RF Low Pass Filters (optional): up to 2
- LPF insertion loss: <2 dB
- SBS filter @2.0 GHz: > 30 dB
- SBS filter @5.0 GHz: > 60 dB
- Connector: F-type

MANAGEMENT & MONITORING

- Shared or separate IP interface (VLAN or virtual) for management
- L1-L3 filters for all local services
- SSHv2 with key authentication
- Telnet with authentication
- End-user oriented web interface (configurable) - Wi-Fi - PPPoE - LAN network - Port forwarding, NAT loopback, DMZ, DynDNS, Status and monitoring
- TR-069 supporting - TR-104 (VoIP) - TR-181 (Network)
- CLI with auto-completion
- SNMP v1/v2 (IF-MIB, ICOTERA private MIB)
- Extensive debug possibilities
- Packet dumping
- All settings are stored locally in flash
- Zero-touch configuration with DHCP/TFTP or TR-069
- Automatic firmware and configuration update (polling)
- Dual bank firmware w/ fail-safe upgrading

OPERATIONAL SPECIFICATIONS

- DC12V input \pm 10%
- Operating temperature: 0 - 45°C
- Storage temperature: -20 - 85°C
- Humidity: 5% - 95% (non-condensing)

PHYSICAL SPECIFICATIONS

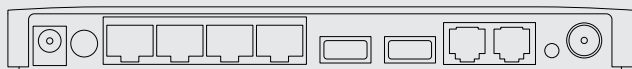
CASING

- Weight: 800 g
- Size: 190 x 110 x 48 mm (W x H x D)
- Front LEDs configurable by operator and/or end-user: - Power/WAN status (link/traffic/provisioning) - VoIP port 1 - VoIP port 2 - Wi-Fi - CATV (status/signal power)
- LAN status LEDs (link/traffic, duplex) per interface
- LED auto off after timeout period

FIBER TERMINATION UNIT (OPTIONAL)

- Slide-on mechanism for easy installation
- FTU support for - Gas block unit (sold separately) - WDM filter (sold separately)

i5800 Residential ONT Configuration possibilities



Gateway Interface Configurations:

Model	Uplink	LAN	USB	POTS	CATV	Wi-Fi	Antennas	Bottom
i5801:	GPON	4x	2x	2x	1x	802.11b/g/n + 802.11ac	2x2 Int.	FTU
i5802:	GPON	4x	2x	2x	1x	802.11b/g/n + 802.11ac	2x2 Int.	Patch
i5805:	GPON	4x	2x	2x		802.11b/g/n + 802.11ac	2x2 Int.	FTU
i5806:	GPON	4x	2x	2x		802.11b/g/n + 802.11ac	2x2 Int.	Patch

NOTE: All models with Wi-Fi are also available with external antennas. Contact sales for further information.



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