

TJ2100N-2x Series of ONTs

Versatile GPON Industrial ONTs



DATA SHEET



Product Highlights

- **Standard ITU G.984 compliant GPON ONTs**
- **Industrial, Enterprise, MTU and IoT applications**
- **IEEE 802.3af/at POE support**
- **Enhanced QoS and Multicast for Video**
- **Ruggedized Enclosure for Industrial applications**

Key Features and Benefits

Overview:

Tejas offers a series of advanced GPON ONT elements designed for next-generation Optical Access networks deployed in FTTH (Fiber-to-the-Home) and FTTB (Fiber-to-the-Building) formats. It addresses the rapidly growing service provider needs for flexible, high-capacity fixed-line broadband solutions to support emerging video applications (e.g., CCTV, Mobile backhaul, MTU, VOD, IOT) in Industrial, enterprise, residential deployments, aggregation of backhaul traffic from LTE cell sites, enterprise VPN Services and SD-WAN networks based on NFV paradigm.

Tejas has as a full GPON solution that includes both TJ1400 OLT (Optical Line Terminal) and TJ2100N-20 (Optical Network Terminal) platforms.

TJ2100N-20P is a versatile ONT product series available in multiple flavours supporting 10/100/1000 Gigabit Ethernet USB and POTS interfaces, supporting POE.

TJ2100N-20P series is compliant to ITU-T G.984, G.988 and TR-069 set of standards.

Product highlights:

Plug-and-play (PNP): Configuration using standard OMCI and TR-069 protocols for provisioning CCTV, MTU, VOD, IOT, Internet, IPTV, VoIP, etc services.

Ethernet interfaces: Has 8 Ethernet interfaces to cater to use cases such as CCTV, PA systems, connectivity to external WiFi access points or any application which needs Ethernet connectivity.

Power:

POE: System has option for POE (IEEE 802.3af/at) for powering devices connected on Ethernet to ONT, thus reducing the requirement of separate power source for end equipment.

POTS: The ONT has two POTS interfaces for connectivity to PSTN network.

Mechanical and Environmental: DIN Rail form factor suitable for extended temperature range (upto 55°C).

Technical Specifications

GPON Interface Specifications

SC/APC connector
Transmission: ITU-T G.984 |
Optical module: Class B+
Optical transmit power +0.5 to +5dBm
Receive sensitivity of -28dBm.
Upstream and Downstream FEC

Ethernet

Meets 802.3 specifications
8x10/100/1000Mbps
POE ports : IEEE 802.3af (For all 8 ports), IEEE 802.3at (For 4 ports)
RJ-45 connector
POTS: 2xFXS ports with RJ-11 connector.
USB: 2* USB 2.0

Voice Features

Signaling : SIP (IMS)
Locale selection based on country profile
Two SIP accounts for Two POTS interfaces
Codecs: G.711Alaw, G.711Ulaw, G.729a, G.726, PCM
Wideband, G.722, GSM AMR, AMR Wideband
Media and signal are separated
Fax: Transparent FAX, T.38
DTMF: Inband, RFC2833, SIP Info
V.18 support
Voice Activity Detection: Supported
SIP Transport : UDP & TCP

Wireless Features

Standards: 802.11 a/b/g/n/ac with channel bandwidth: 20/40/80MHz (For 802.11 AC)
Frequency of operation: 2.4GHz/5GHz
SSID per radio: 4 | AP isolation: Supported
Max clients: 128 | Mac restrict mode: Supported
Mac filter based probe response: Supported
No of TX/RX chains: 2 | WMM support: Yes
Preamble: Configurable between short/long
Configurable Beacon interval

Security: Open, 802.1x for WiFi/LAN, WPA2-PSK

Layer 2 capabilities

Ethernet frame filtering based on port, Source/Destination IP and MAC Addresses | IEEE 802.3as | Supports maximum MTU size of 2000 Bytes | IEEE 802.1d bridging Ingress/egress IEEE 802.1p tagging, replacement, and stripping | IEEE 802.1ad Double tagging | Traffic class forwarding to GEM Port and TCONT | QoS based on 802.1p and 802.1q | 802.1p marking based on DSCP | Multicast : IGMP v2, v3, IGMP snooping

Layer 3/4 hardware NAT/NAPT

Support 4K/8K/16K/32K flow based connections | Port Forwarding | Port/VLAN bridging | IPV4/IPV6 flow routing for policy rate | IPOE/DHCP/PPPoE/PPTP/L2TP WAN hardware forward

GPON Features

Data rates of 2488Mbps downstream and 1244Mbps upstream. | 32 TCONT and 128 GEM port IDs | Ranging and activation process support | HW Dying gasp | Wavelength: 1490 nm/1310 nm | Distance: 20km between closest and farthest ONT from OLT, as per GPON standards.

Downstream

Downstream AES-128 encryption and key exchange process | Downstream FEC, RS(255,239) | Dedicated independent TX queues for PLOAM and CPU packets

Upstream

Upstream FEC, RS(255,239) | Normal queues for PLOAM and CPU packets | Performance monitoring, faults and alarm, including BER rate monitor.

Power saving: As per ITU-T 984.3 (01/2014) of ONU power management aspects.

OAM

Management: G.988 (OMCI), TR-069, CLI, Telnet
Alarm: Alarm report and suppression (ARC) | LED: LED indicators | Firmware: Firmware upgrade, active and alternative firmware images

Power

12 VDC ,2A +/- 5%, Round barrel-type connector (non-PoE models) | 44-57 VDC, 3A +/- 5%, 3 pin combicon connector (PoE models) | Max PoE Power for attached devices (4 Nos of IEEE 802.3at or 8 Nos of IEEE 802.3af) : 120W

Mechanical and Environmental

Table Top and wall mount enclosure design | Operating Temperature: -5°C to 55°C | Dimensions: L178mm*W117mm*H60mm | Altitude: 4,000m operations : Humidity: 5 to 90% RH non-condensing

Regulatory Compliances

RoHS (6/6)

Ordering Information

Model	Configuration
TJ2100N-20PS4	4GE (POE)
TJ2100N-20PS	8GE (POE) + 2POTS + 2USB
TJ2100N-20PSW	8GE (POE) + 2POTS + WiFi + 2USB

specifications subject to change without notice



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