

## Einmalige Aktivierung ohne Endgerät von SWU TeleNet Zugangsdaten und technische Anforderungen für den passiven Netzzugang

### Für FTTH- Anschlüsse:

- Erforderlich ist eine Mitteilung an SWU TeleNet über Hersteller, Gerätetyp und Seriennummer des zu aktivierenden Endgerätes
- **Zugangsdaten für Internet:** IP-Adresse über DHCP und VLAN ID 100
- **Zugangsdaten für Telefon:** IP-Adresse über DHCP und VLAN ID 200

- Dynamic Bandwidth Allocation (DBA) for sharing amongst multiple users while maintaining QoS
- Forward Error Correction (FEC) for longer reach upstream and downstream
- Advanced Encryption System (AES) for downstream and upstream data security
- ONT Management Control Interface (OMCI) for ONT management and provisioning

#### The common features and functions for ONTs and MDUs include the following:

- GEM mode support for efficient IP/Ethernet service traffic transport
- GPON interface capable of 1.244 Gb/s upstream and 2.488 Gb/S downstream line rates
- integrated triplexers or bidirectional transceivers for single fiber with 1490 nm wavelength downstream, 1310 nm wavelength upstream, and 1550 nm downstream for RF video overlay
- class B+ 28 dB link loss budget with up to 20km (12.43 mi) reach

#### ONT ITU-T standards

- G.984.1(GPON Service requirements)
- G.984.2 (GPON PDM layer)
- G.984.2 (GPON PDM layer) amendment 1
- G.984.3 (GPON TC Layer)
- G.984.3 (GPON TC Layer) amendment 1 and 2
- G.984.4 (GPON OMCI)
- G.984.4 (GPON OMCI) amendments 1 and 2

#### The IGMP snooping function supports:

- the ability to enable and disable IGMP per Ethernet port
- the ability to age out multicast MAC addresses in the IGMP table
- G.984.3 compliant multicast using a single GEM port-ID for all video traffic (as mandated by G.984.3)
- up to of 64 video multicast streams per ONT

#### Anti-spoofing mechanism

The system supports two features to protect against spoofing:

- gratuitous ARP discard
- source address anti-spoofing

#### Ethernet Interface

The Ethernet interfaces on the ONT support the following primary features:

- Ethernet port compliance with IEEE 802.3
- IEEE 802.1Q, 802.1x port-based authentication, and 802.1p (QoS classification per Ethernet port)
- layer 3 DSCP to 802.1p mapping to allow layer 3 CoS over the layer 2 network
- full or half duplex operations
- auto-negotiation or manual setting by an operator
- layer 2 forwarding

## RF video interface specifications for video overlay

- The system can provide RF video service through the video overlay function. The function operates downstream in the 1550 nm optical band
- 18 dBmV Receiver with F-type Connector
- Specifications are shown in the table below

Table 4-8 RF video Interface specifications for ONTs with 18 dBmV receivers

| RF video features              | Channel mix 80 analog/33 digital <sup>(1)</sup>           | Channel mix 40 analog/63 digital                          | Channel mix 0 analog/135 digital                           |
|--------------------------------|---|---|--|
| RF output level                | +18 dBmV @ 450 MHz using a per analog channel measurement | +18 dBmV @ 450 MHz using a per analog channel measurement | +12 dBmV @ 450 MHz using a per digital channel measurement |
| RF slope correction (tilt)     | 2 dB from 50 to 870 MHz                                   | 2 dB from 50 to 870 MHz                                   | 2 dB from 88 to 870 MHz                                    |
| Optical power range            | +1 to -6 dB   | +2 to -7 dB   | +1 to -9 dB  |
| CNR                            | 45 dB   | 46 dB   | —  |
| CSO/CTB                        | 53 dB   | 55 dB   | —  |
| MER                            | 32 dB   | 32 dB   | 32 dB  |
| QAM signal-to-noise ratio      | 40 dB   | 40 dB   | 40 dB  |
| <b>Measurement assumptions</b> |   |   |  |
| Channel load                   | 80 analog and 33 digital                                  | 40 analog and 63 digital                                  | 0 analog and 135 digital                                   |
| Digital backoff QAM-256        | 6 dB  | 6 dB  | 6 dB   |
| Digital backoff QAM-64         | 10 dB   | 10 dB   | 10 dB  |
| PON input CNR                  | 52 dB   | 52 dB   | 52 dB  |