

Tellabs® 1000 Multiservice Access Platform: VDSL2 6+6 Plug-in Card

Deliver converged high-bandwidth services for increased revenue opportunities.

Overview

Providing high-speed, integrated broadband applications over yesterday's copper is challenging. But with the Tellabs VDSL2 6+6 high-performance line card, you can deliver integrated voice, data and video applications from the Tellabs® 1000 Multiservice Access Platform (MSAP). The card supports broadband service over a single copper pair or via two adjacent bonded copper pairs. This enables operators to provide higher speed broadband services across existing copper Customer Service Areas (CSAs).

Operating in both IP/Ethernet packet-based and ATM environments, the VDSL2 supports Packet Transfer Mode (PTM) traffic as well as ATM mode over copper. At the same time, the VDSL2 6+6 card is backward-compatible with legacy ADSL protocols such as G.992.1 (G.DMT), T1.413 (Full Rate), G.992.3 (ADSL2) and G.992.5 (ADSL2+). It also supports fallback to ADSL2+ for optimal services.

The Tellabs® Panorama™ Integrated Network Manager (INM) can easily manage all broadband services over the VDSL2 6+6 card. The INM supports the full range of Fault, Configuration, Accounting, Performance and Security (FCAPS) functions.

Features and Benefits

The VDSL2 6+6 provides six integrated ports of VDSL2 (with bonding capability) and POTS. The Tellabs 1000 MSAP supports up to 20 VDSL2 6+6 cards per large line size, 22 multi-service slot chassis or 8 VDSL2 6+6 cards in the smaller, 10 multi-service slot chassis. The cards themselves are equipped with dual memory for minimal service-affecting upgrades. Additional significant features and benefits:

- Both VDSL2 and ADSL2+ bonding for twice the bandwidth across two pairs
- Supports PTM and ATM traffic options per port for packet or ATM transmission
- ADSL2+ fallback from VDSL2 and from PTM to ATM for best reach and rate
- 17a profile for 5-band (17 Mhz) support, maximizing bandwidth within short CSAs
- Single Ended Line Test (SELT) proactively qualifies line distance, gauge and noise
- Low-power mode transition, at port level, saves power during port inactivity
- Power shut-off feature, at port level, saves power during battery backup conditions
- Future support for vectoring to optimize transmission across multiple pairs



VDSL2 6+6 plug-in card with ADSL2+ and bonding.

Applications

Start marketing IPTV services and premium High Speed Internet (HSI) in service areas that already have existing embedded Tellabs 1000 MSAP systems. The VDSL2 6+6 also is ideal for revenue growth strategies:

- Voice supporting GR-303, GR-08 and GR-57 switch interfaces
- Premium HSI with data rate service plans pushing 25 Mbps, 50 Mbps and beyond
- IPTV deployed in conjunction with IGMP-enabled GbE222
- Small business and home office services
- CSA loop shortening to maximize broadband services delivered
- Grow subscribers into new cabinet and retrofit existing cabinet

Specifications

Optimal Rate and Reach

VDSL2 theoretical data rate and reach under ideal conditions:

- Downstream: rate adaptive up to 100 Mbps in 32 kbps increments
- Downstream (2 bonded pairs): rate adaptive up to 200 Mbps in 32 kbps increments
- Upstream: rate adaptive up to 50 Mbps in 32 kbps increments
- Upstream (two bonded pairs): rate adaptive up to 100 Mbps in 32 kbps increments
- 1830 Ω total loop length including station

Line Testing

- DSL loop diagnostics
- Single Ended Line Test (SELT)
- Supports metallic test access

Input Impedance

- 900 Ω at 200 Hz to 3.2 kHz

Power

- Average power consumption: 21.56W (100% DSL lines trained and 6 CCS voice)
- Low-power mode, during port inactivity, can be provisioned in seconds
- Configurable power shut-off feature, during battery backup conditions

Environmental

- Operating temperature: -40°C to +65°C (-40°F to +149°F)
- Relative humidity: 5%–95% non-condensing

Dimensions

- Height: 13.018 cm (5.125 in)
- Width: 1.429 cm (0.563 in)
- Depth: 26.67 cm (10.5 in)
- Weight: 0.23 kg (0.5 lbs)

Compliance

A sample, non-exhaustive list of industry standards followed.

- G.993.2 (VDSL2)
- G.992.1 (G.DMT)
- T1.413 (Full Rate)
- G.992.3 (ADSL2)
- G.992.5 (ADSL2+)

LED Indicators

- Red, non-blinking FAIL: plug-in card failure or card is unable to communicate with the CPU.
- Red, blinking FAIL: one or more ADSL circuits are receiving illegal signaling.
- Green, non-blinking BUSY: one or more ADSL circuits are active.
- Green, non-blinking SYNC: one or more ADSL circuits are enabled and trained up with the CPE.

Software

- Supported in Tellabs 1000 MSAP Feature Package (FP) FP16 and greater

Information

VDSL2 6+6 (0110-0265)

For more information, please contact your local Tellabs sales representative, local Tellabs sales office, at the phone numbers provided below or visit www.tellabs.com.