



**SKU:** 0110-0284

**Category:** Cards/Units

## VDSL2 6+6B Plug-in Card

Optimize your broadband strategy by expanding bandwidth service delivery capacity of Tellabs 1000 Multi-Service Access Platform (MSAP) with the new VDSL2 6+6B card. With the Tellabs VDSL2 6+6B, you can deliver integrated voice, data and video applications from the Tellabs 1000 MSAP taking advantage of both VDSL2 and ADSL2+ capabilities. 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.

## Features

- Single card for all ADSL2+ and VDSL2 functions
- Six ports of integrated DSL and POTS
- Saves Cost and Minimizes Equipment Inventory
- VDSL2, VDSL2 bonding, ADSL2+, ADSL2+ bonding, ADSL2+ PTM, ADSL2 and ADSL1
- ADSL2+ Annex M, ADSL2+ Annex L and ADSL2 Annex M are supported
- DSL Speeds Supported up to 100Mb/s
- Provision via Craft User Interface (CUI) and Tellabs Panorama Element Management System (EMS)

## Highlights

### Leverage Existing Tellabs 1000 MSAP

Deploy rapidly, utilizing embedded base, to meet funding requirements and market by capitalizing on using existing copper plant.

### Win More Broadband Stimulus Projects

Enables higher Connect America Fund (CAF) and Rural Digital Opportunity Fund (RDOF) speeds with minimal capital investment and more granular provisioning.

### Expand Services Areas

Broaden service areas to serve more subscribers with greater bandwidth while economically serving higher speed connectivity to residential and business customers.

### Provide More Premium Services

Deliver faster speeds to improve customer satisfaction and retention. Plus, increase premium service rates to generate more revenue.

## Specifications

### Physical

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

### Interfaces

- Integrated VDSL2, ADSL2+ and POTS (6+6) interface

### Power Consumption

- Power consumption: 21.56W (100% DSL lines trained and 6 CCS voice)
- Input impedance: 100 ohms @ 30 kHz to 2.2 MHz
- Low-power mode, during port inactivity, can be provisioned in seconds
- Configurable power shut-off feature, during battery backup conditions

### POTS Features

- Six 2-wire POTS circuits per card
- On-hook transmission (CLASS) capability

- Forward disconnect
- 900 ohm +2.16 QF local exchange impedance
- 1830 ohm maximum DC supervision range
- Support for GR-303, TR-8, and TR-57 switch interface configurations
- Transient protection for outdoor bridging
- Loop test support including MLT
- Support for CMWI (Call Message Waiting Indicator)

### **POTS Signaling**

- End-to-end signaling delay (normal and reverse)
- Pulse distortion (pw > 25 msec)
- Ring trip detector sensitivity (85 Vrms, 20 Hz)
- Ring trip delay (85 Vrms, 20 Hz)
- Maximum loop length incl. station 1830 ohm @ 20 mA
- Loop current @ -52 Vdc battery 23 mA constant, 2 300 ohm feed
- Tip/ring open circuit voltage: Normal mode, -52 Vdc battery
- On-hook transmission mode > 41 Vdc
- Off-hook detection threshold
- On-hook detection threshold > 10.0 k ohm
- Audio Companding; QLaw
- Nominal input impedance 900 ohm + 2.16 QF
- Nominal loss (referenced to 2-wire 900 ohm ) 2.0 dBm 3 0.5 dB off-hook
- Maximum VF overload level 5.0 dBm @ 600 ohm
- Return loss (single frequency) > 18 dB (300 Hz to 3.4 kHz)
- Echo return loss > 13 dB (300 Hz to 500 Hz) > 18 dB (500 Hz to 2.5 kHz) > 14 dB (2.5 kHz to 3.4 kHz)

### **DSL Features**

- 1830 ohms total loop length including station
- Downstream: rate adaptive up to 100 Mbps in 32 kbps increments
- Upstream: rate adaptive up to 50 Mbps in 32 kbps increments
- Downstream (two bonded pairs): rate adaptive up to 200 Mbps in 32 kbps increments
- Upstream (two bonded pairs): rate adaptive up to 100 Mbps in 32 kbps increments
- Single pair mode supports G.DMT, ADSL, ADSL2, ADSL2-annex L, ADSL2+, ADSL2+ PTM, VDSL2 profile 8a and VDSL2 profile 17a
- Two pair bonded more supports ADSL2+, ADSL2+ PTM, VDSL2 profile 8a and VDSL2 profile 17a
- ADSL2+ Annex M, ADSL2+ Annex L and ADSL2 Annex M are supported

### **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

### **Compliance**

- G.993.2 (VDSL2)
- G.992.1 (G.DMT)

- G.992.3A (ADSL2 Annex A)
- G.992.3L (ADSL2 Annex L)
- G.992.5 (ADSL2+)
- GR-TSY-000057
- GR-TSY-000303
- GR-TSY-000008
- GR-63-CORE
- GR-1089-CORE
- ANSI T1.413-1998
- G.992.2
- G.992.3
- G.992.5
- G.994.1
- G.998.1

**Environmentals**

- Altitude: Up to 10,000 feet
- Temperature: -40° to +149° F (-40° to +65° C)
- Relative Humidity: 5-95% noncondensing

**Alarm / Monitor / Test**

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

**Installations**

- Supported in Tellabs 1000 CBA

**Software Support**

- Supported in Tellabs 1000 MSAP Feature Package (FP) FP17.0.6 and higher
- Holds two versions of software with image integrity checking and automatic rollback
- Option for Tellabs Panorama Element Management

**Management**

- Craft User Interface (CUI)
- Tellabs Panorama Element Management System (EMS)

**Ordering Information**

- VDSL2 6+6B: 0110-0284

**General**

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