

9TCE-PCN-10GU+AES10G-G

Muxponder/quad-transponder with BSI-approved Layer 1 encryption

Benefits

- **Built-in cryptographic functions**
No need for additional equipment or software
- **BSI-approved and CC-certified**
"BSI-VSA-10672" approval for the transport of classified data up to "VS-NfD" level; Common Criteria (CC) certification (operating system level)
- **Tamper-evident case**
Hardware designed to avoid any unauthorized access or manipulation of security-sensitive components
- **High-density design**
10Gbit/s muxponder or quad-transponder with four independent transponders in just a 1-slot module
- **Multi-protocol ports**
10 multi-protocol ports that can work as client or network ports in accordance with the operation mode
- **Comprehensive monitoring capabilities**
Multiple fault and performance monitoring capabilities on the client and the network ports

Overview

The **9TCE-PCN-16GU+AES100G-G** is a channel card that can work as a 10Gbit/s multiplexer or quad-transponder with four independent transponders in just one card. With our robust and reliable ConnectGuard™ Layer 1 encryption technology, this module satisfies the most stringent security demands, including being qualified by the German Federal Office for Information Security (BSI) for the transport of classified data up to VS-NfD ("BSI-VSA-10672").

Our 9TCE-PCN-16GU+AES100G-G is an enterprise-type TDM channel module with 10 interface cages that can serve as either client or network ports depending on the application (muxponder or transponder). Moreover, it implements cryptographic functions such as encryption, decryption and random number generation. The network interface data stream is encrypted/decrypted using the Advanced Encryption Standard (AES). Data encryption and the use of an endpoint authentication mechanism protect the network link between two communicating 9TCE-PCN-16GU+AES100G-G modules against man-in-the-middle attacks. Our ConnectGuard™ Layer 1 encryption technology satisfies the strictest security standards such as FIPS 140-2. What's more, it has achieved BSI approval for transport of classified data up to VS-NfD level. This makes this terminal ideal for the transmission of sensitive information that must be protected from unauthorized access.



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High-level technical specifications

General information

- Two operation modes:
 - 10G terminal multiplexer
 - 10G quad-transponder
- 1-slot module
- 10x SFP/SFP+ cages for client port or network port use
- Typical power consumption fully equipped: 25W/35W (muxponder/transponder)

Muxponder mode

- Nine client ports (SFP/SFP+) and one network port (SFP+)
- Up to nine client services multiplexed/demultiplexed onto/from one 10Gbit/s ITU-T wavelength (OTU2)
- Client protocols supported: STM-4/OC12, GbE, STM-16/OC48 and electrical Ethernet E10-1000T

Transponder mode

- Up to four independent transponders per card, each one with one client port (SFP/SFP+) and one network port (SFP+)
- Client protocols supported: 8GFC, STM-64/OC192, 10GbE LAN, CE-LR, RoCE, OTU-2

Environmental conditions

- Telcordia SR-3580 level 3 (NEBS), ETSI EN 300 019-1-3 Class 3.1 (9RU)/3.1e (7RU, 1RU)
- Operating temperature: +5°C to +40°C / -40°C to +65°C with 1RU E-Temp+ shelf
- 5% to 85% relative humidity (non-condensing)

ConnectGuard™ encryption

- Encryption of payload acc. to AES-GCM with 256bit key
- Diffie-Hellman 4096 key exchange every minute
- Protection against modification
- Far-end authentication

Security certifications

- BSI approval for transport of classified data up to VS-V level ("BSI-VSA-10672")
- Common Criteria (operating system level)

Applications in your network

Secure enterprise connectivity

- High-capacity transport of sensitive data over WDM metro network infrastructure
- Built-in Layer 1 encryption technology for robust protection of data in motion with 100% throughput and ultra-low latency
- Protocol-agnostic Layer 1 encryption protecting data at all layers in the network stack
- Most robust and reliable Layer 1 encryption on the market:
 - BSI approval for the transport of classified data up to VS-NfD level (“BSI-VSA-10672”)
 - Common Criteria certification (operating system level)
 - Adva Network Security is the only DWDM vendor that has achieved BSI approval

