

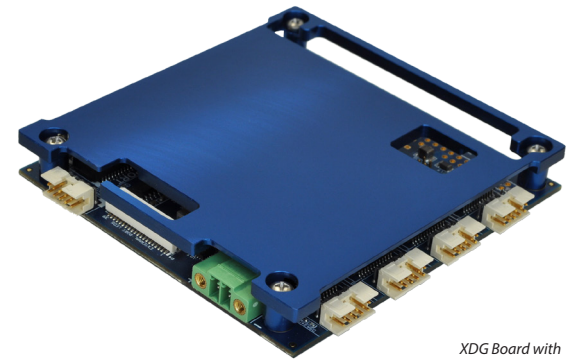
## Xtreme/GbE Managed Carrier Ethernet Switch

Connect Tech's Xtreme/GbE Managed Carrier Ethernet Switch provides Carrier Grade Ethernet switching capabilities in an extremely small embedded form factor.

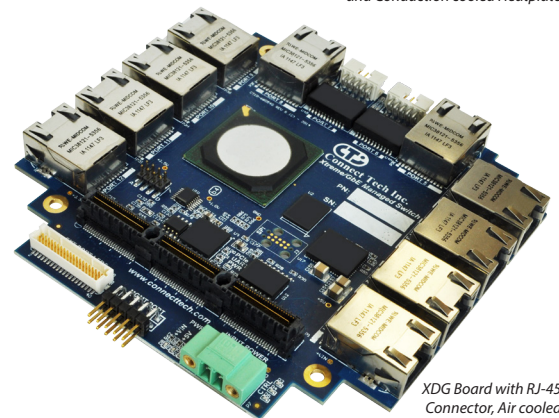
Excellent for high-end applications such as Mobile and Microwave backhaul, the Xtreme/GbE Managed Carrier Ethernet Switch is also a highly reliable way to communicate with 10/100/1000 devices in an embedded system. Powered by the latest generation Carrier Ethernet Switch engine the Vitesse 7428/7429. Its embedded 416 MHz MIPS 32-bit CPU, 1Gb DDR2 external memory and DMA-based frame extraction and insertion support timing over packet, Ethernet OAM, and performance monitoring.

Available in models with RJ-45 or Rugged Positive Locking Headers, making this embedded Ethernet switch ideal for any type of environment.

**Product Name:** Xtreme/GbE  
Managed Carrier Ethernet Switch  
**Part Numbers:** XDGXXX Series



XDG Board with Rugged Locking Connectors and Conduction cooled Heatplate



XDG Board with RJ-45 Connector, Air cooled (Heatsink not shown)

### Hardware Specifications

<b>Ethernet Switch Engine</b>	<p><b>Vitesse VSC7428</b> Carrier Grade Ethernet Switch Chipset (XDG004-009) <b>Vitesse VSC7429</b> Carrier Grade Ethernet Switch Chipset (XDG010, XDG013)</p> <p>wa powerful embedded 416 MHz RISC 32-bit CPU, with DDR2 external memory and DMA-based frame extraction and insertion supports timing over packet, Ethernet OAM, and performance monitoring.</p>
<b>Memories</b>	<p>1Gb DDR2 SDRAM 128Mb Serial NOR Flash</p>
<b>Port Type</b>	Gigabit ethernet (10/100/1000 Mbps)
<b>Connectors</b>	RJ-45's or Rugged Locking Pin Headers (see part numbers on page 2)
<b>Layer 2 Switching</b>	<p>802.1Q VLAN switch with 8K MACs and 4K VLANs Push/pop up to two VLAN tags IPv4/IPv6 multicast Policing with storm control and MC/BC protection RSTP and MSTP support Hardware and software-based learning Link aggregation (IEEE 802.3ad) Independent and shared VLAN learning (IVL, SVL) Jumbo frame support</p>
<b>Management Access</b>	<p>Web Interface RS-232 Serial Interface (CLI) Software API PCIe/104 Bus</p>
<b>Indicator LEDs</b>	<p>2 LEDs per port (available on RJ-45 and through external connector) Power Rail LEDs Status LEDs</p>
<b>Standalone Operation</b>	Switch can be used as a standalone unit OR it can be paired with an embedded SBC.
<b>Input Voltage</b>	<p>Wide input rage: +9V to +36V DC with Reverse Polarity Protection Can be powered from external connector OR directly from expansion bus</p>
<b>Power Consumption</b>	Idle: 0.3A, 3.6W Typical: 0.35A, 4.2W Max: 0.5A, 6W (with +12V input)
<b>Bus Interface</b>	<p>No bus connector populated PC/104 bus pass through (for sourcing power only) PCIe/104 bus (sourcing power and management interface)</p>
<b>Dimensions</b>	<p>PC/104 compliant: 3.775" x 3.550" Tallest Top Side Component: Heatsink 0.375" (9.5mm)</p>
<b>Operating Temp</b>	-40°C to +85°C (chipset rated to +125°C thermals)

### FEATURES

- ✓ Conduction cooled Heatplate or Air cooled Heatsink option
- ✓ 8 or 12 Port 10/100/1000 Mbps Switch
- ✓ Web GUI or CLI Management
- ✓ Carrier Grade Ethernet Switching
- ✓ Available with RJ-45 or Rugged Locking connectors
- ✓ PC/104 Compliant: 4.550" x 4.393" or Smaller
- ✓ Extended Temperature Range -40°C to +85°C

## Xtreme/GbE Managed Carrier Ethernet Switch

### Software Specifications

<b>Port control</b>	Port Speed/Duplex Mode/Flow Ctrl Port Frame Size (Jumbo frames) Port State (administrative status) Port Status (link monitoring) Port Statistics (MIB counters) Port VeriPHY (cable diagnostics)
<b>QoS</b>	Traffic Classes (8 active priorities) Port Default Priority QoS User Priority Input priority mapping QoS Control List (QCL Mode) Storm Control for UC, MC and BC Port policers Global/VCAP (ACL) policers Port egress shaper Queue egress shapers TRTCM (two rate three color market) Scheduler mode (Strict or Weighted Fair Queuing)
<b>L2 Switching</b>	Auto MAC addr. Learning/Ageing MAC Addresses – Static Virtual LAN Private VLAN – Static Port Isolation – Static IEEE-802.1ad Provider Bridge (Native or Translated VLAN) Rapid Spanning tree – RSTP, STP Loop Guard Link Aggregation – Static Link Aggregation – LACP IGMPv2 snooping Port Mirroring (Ingress and Egress Mirroring)
<b>L3 Switching</b>	IPv4 Unicast: RIPv1/RIPv2
<b>Security</b>	Port-Based 802.1X Multiple 802.1X Web & CLI Authentication ACLs for filtering/policing/port copy

### Software Specifications Continued

<b>Synchronization</b>	SNTP & client
<b>Power Saving</b>	Cold start Cool start ActiPHY PerfectReach EEE Power Management LED Power Management Thermal Protection
<b>Management</b>	DHCP Client HTTP Server CLI - Console Port Industrial Standard CLI Industrial Standard Configuration Management access filtering HTTPS System Syslog Software Upload via web SNMP v1 / v2c / v3 Agent SNMP multiple trap destinations IEEE 802.1AB-2005 Link Layer Discovery – LLDP Configuration Download/Upload - XML Configuration Download/Upload - Industrial Standard Loop detection restore to default Symbolic Register Access
<b>MIBs</b>	RFC 1213 MIB II RFC 1215 TRAPS MIB RFC 4188 Bridge MIB RFC 3635 Ethernet-like MIB RFC 3411 SNMP Management Frameworks IEEE 802.1 MSTP MIB IEEE 802.1AB LLDP-MIB (LLDP MIB included in a clause of the STD) RFC 3621 LLDP-MED Power (POE) (No specific MIB for POE+ exists) Private MIB framework

## RoHS

Specifications subject to change without notice.  
©2015, Connect Tech Inc. All trademarks are property of their respective holder.

Part Number	GBE Port Count	GBE Connector Type	Thermal Solution	PC/104 Bus Connector Option
<b>XDG004</b>	8	RJ-45's	Air Cooled Heatsink	None
<b>XDG005</b>	8	RJ-45's	Air Cooled Heatsink	PC/104
<b>XDG006</b>	8	RJ-45's	Air Cooled Heatsink	PCIe/104
<b>XDG007</b>	8	Rugged Locking Pin Headers	Air Cooled Heatsink	None
<b>XDG008</b>	8	Rugged Locking Pin Headers	Air Cooled Heatsink	PC/104
<b>XDG009</b>	8	Rugged Locking Pin Headers	Air Cooled Heatsink	PCIe/104
<b>XDG010</b>	12	RJ-45's & Ruggd Locking Pin Headers	Air Cooled Heatsink	PCIe/104
<b>XDG012</b>	12	RJ-45's & Ruggd Locking Pin Headers	Air Cooled Heatsink	None
<b>XDG013</b>	12	Rugged Locking Pin Headers	Air Cooled Heatsink	PCIe/104
<b>XDG016</b>	8	RJ-45's	Conduction Cooled Heatplate	None
<b>XDG017</b>	8	RJ-45's	Conduction Cooled Heatplate	PC/104
<b>XDG018</b>	8	RJ-45's	Conduction Cooled Heatplate	PCIe/104
<b>XDG019</b>	8	Rugged Locking Pin Headers	Conduction Cooled Heatplate	None
<b>XDG020</b>	8	Rugged Locking Pin Headers	Conduction Cooled Heatplate	PC/104
<b>XDG021</b>	8	Rugged Locking Pin Headers	Conduction Cooled Heatplate	PCIe/104
<b>XDG022</b>	12	RJ-45's & Ruggd Locking Pin Headers	Conduction Cooled Heatplate	PCIe/104
<b>XDG023</b>	12	Rugged Locking Pin Headers	Conduction Cooled Heatplate	PCIe/104
<b>XDG029</b>	12	Rugged Locking Pin Headers	Conduction Cooled Heatplate	None

Part Number	Cable
<b>CKG019</b>	Ruggedized Cable Kit for XDG007/8/9
<b>CKG029</b>	Cable Kit for XDG010
<b>CKG033</b>	Ruggedized Cable Kit for XDG013