XipLink XS-104 – Single Board Computer

SCPS-TP Accelerator on a Single Board Computer
Fast hardware integration in modular systems

The XS-104 is a advanced TCP protocol accelerator on a single board computer (SBC) based on the PC-104 hardware form-factor. It comes pre-loaded with the latest XipLink Operating System (XipOS) for rapid integration of wireless optimization into modular communication systems.

The XS-104 allows system integrators to quickly add CPU and memory with the features of XipOS to any modular communication system. Delivering 16 Mbps of optimized capacity, typical users gain 2X to 10X the existing bandwidth for all TCP applications.

Some examples of XS-104 integration include:
- Man-portable systems for secure and un-secure users
- Ruggedized Mobile Routers – Aviation, Maritime, Land Mobile
- Surveillance applications
- Voice / Data optimization systems
- Base Station Radio subsystems

XS-104 can be quickly integrated in-line between base station radios and back-haul radios, delivering increased capacity across these critical links.

Hardware Specifications

Dimensions	96 mm x 96 mm
Weight	200 grams
Power	5V DC, 3 Amps
Operating Temp.	-40°C to +85°C
Conformal Coating	Included
Total Height of Board/Heat Sink	20.10 mm

XS-104 XipOS Features

SCPS-TP Protocol Acceleration
Fills the wireless link to capacity
- SCPS-TP based TCP acceleration
- Fast Start can save 1 RTT for (web) requests
- XipLink Enhancements:
  - *Selective Negative Acknowledgement*
  - *Acknowledgement Frequency Reduction*
  - *Dynamic Buffer Management*
- XipLink Transport Control (XTC) Modes:
  - *Enhanced TCP*
  - *Fixed Rate Control*
  - *Dynamic Rate Control*
  - *Delay-Based Rate Control*

TCP Payload Data Compression
Exceeds the wireless link bandwidth
- Dramatic BW gain on compressible traffic
- Stream based data compression:
  - Higher savings than packet compression
  - Reduces packet count
  - Works on unencrypted data flows

Advanced Quality of Service (QoS)
Shape the wireless link bandwidth
- User-defined QoS class hierarchy
- Guaranteed / committed rates
- Maximum / burst rates
- Prioritization and BW sharing

Transparent VLAN 802.1Q Acceleration
Accelerates VLAN tagged TCP traffic
- Transparent bridging for 4096 VLANs
- Traffic isolation per VLAN with acceleration
- VLAN-aware TCP layer prevents data leaks

Transparent GTP / GRE Tunnel Acceleration
Accelerates TCP traffic carried in GTP / GRE tunnels
- Transparent approach preserves tunnels
- GTP acceleration for 3G, 4G, 5G
- GRE acceleration for IP tunnels

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