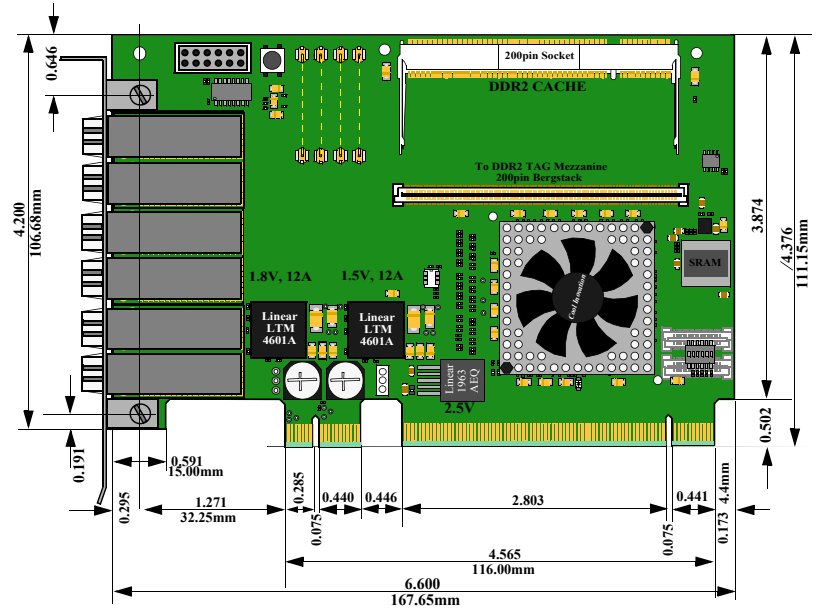
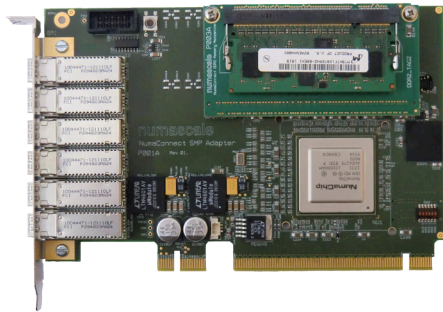


## NumaConnect Adapter Data Sheet



# NumaConnect™ Adapter N313

### For HTX Connection

The NumaConnect SMP Adapter connects to HyperTransport and supports scalable directory based cache coherence in hardware with no additional software requirements.

The implementation is based on a single chip design featuring the NumaChip™, DIMM modules for cache and tag memory, HTX connector and 6 FCI Densishield™ connectors for the fabric.

#### Electrical

Nominal Power Consumption:

NumaChip: 17.5W

Typical Configuration, 4 GigaBytes memory 2 Gigabytes Tag: 25W

#### Cooling

Module Ambient Temperature: Max 55°C

Frontside Forced Air 200lfpm (1m/s)

#### Links and Fabric

6 x 4-Lanes Serdes Links @ 4GigBit/s - 19.2 GigaBytes/s

Links configured as 3 counter-rotating rings

1D, 2D or 3D torus configurations

Ring net average data transfer capacity: 17.9 GigaBytes/s

3 Rings 53.8 GigaBytes/s

3D torus cross section bandwidth 53.8\*N GigaBytes/s for a symmetric torus N<sup>3</sup> nodes.

Node bypass delay: 53ns

Ring to ring switching delay: 130ns

Distributed switching 7 way switching per node

#### Latency

Non posted write to remote node and local read: 1.0µs

#### Reliability

ECC with scrubbing on DRAMs

- Product No. N313-xx
- HTX Connector
- Full Size PCI Adapter Format
- N313-48 is extended to 175.26mm
- 256 TeraBytes Addressing Range
- Support for 4096 Nodes
- Hypertransport bidirectional bandwidth 6.4GigaBytes/s
- Two DIMMs for Cache and Tag
- 6 Fabric Connectors with 4 SerDes 4 GigaBit/s Lanes each
- 7-way on-chip distributed switching for 1D, 2D or 3D Torus topologies
- 19.2GigaBytes/s Fabric I/O per Node
- Adapter Configurations:
  - N313-22: 2 GB Cache 2 GB Tag supports 56 GB Local Node RAM
  - N313-44: 4 GB Cache 4 GB Tag supports 112 GB Local Node RAM
  - N313-48: 4GB Cache 8 GB Tag supports 240 GB Local Node RAM

N313D2