

LAN9218 FAMILY OVERVIEW

FULL-FEATURED, NON-PCI, 10/100 ETHERNET CONTROLLERS

SMSC's LAN9218 series is a family of advanced, non-PCI, 10/100 Ethernet controllers offering a broad range of performance options, with support for HP Auto-MDIX*, commercial and industrial networking applications.

The new LAN9218, and the presently supported LAN9118 family of 10/100 Ethernet products, are register and driver-compatible and share a common footprint**. Design performance can be scaled up or down as needed, and one common design can support a wide spectrum of system products.

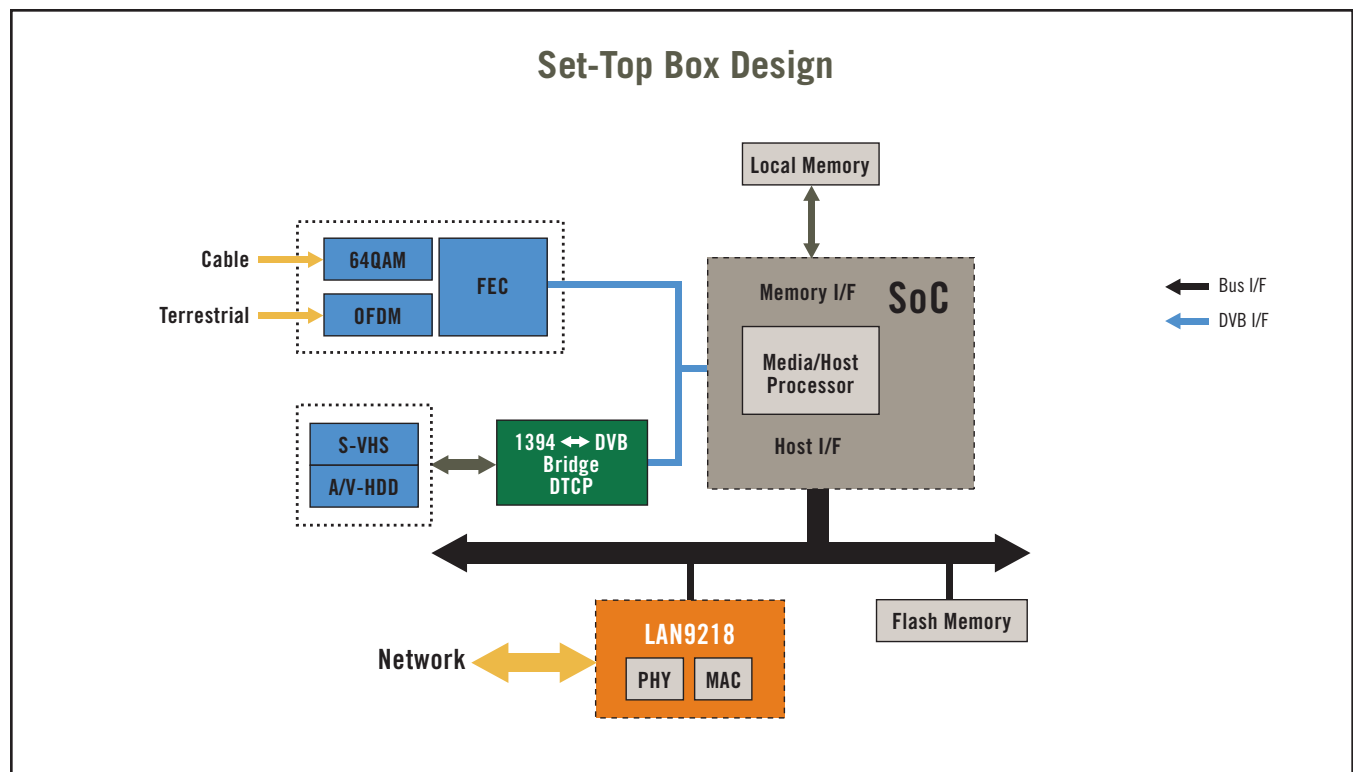
The LAN9218 Family (with HP Auto-MDIX support):

- The LAN9218I for 32-bit **industrial** applications requiring the highest performance from a non-PCI Ethernet controller
- The LAN9218 for 32-bit **consumer** applications requiring the highest performance from a non-PCI Ethernet controller
- The LAN9217 for 16-bit **consumer** applications requiring high-performance from a non-PCI Ethernet controller
- The LAN9215I for 16-bit **industrial** applications that are cost competitive and performance sensitive
- The LAN9215 for 16-bit **consumer** applications that are cost competitive and performance sensitive

* HP Auto-MDIX eliminates the need for special "crossover" cables when connecting LAN devices together

** A minor PCB redesign is required to support HP Auto-MDIX

System Block Diagram



Target Applications

The LAN9218 family targets applications with a high-level of continuous traffic in and out of the Ethernet port. It is well-suited for systems that use Ethernet to carry video, voice or data, including:

- Set-top Boxes, Digital TVs, Digital Video Recorders
- Home and Media Gateways and Media Converters
- Video and Voice-over IP Solutions, IP-PBX and Video Phones
- Audio Distribution Networks and Home Entertainment Systems
- Printers and Digital Cameras
- Point-of-Sale Terminals and Kiosks
- Equipment Monitoring and Control, Instrumentation, Hand-held Equipment
- Data Monitoring, Security Systems and General Embedded Applications

Features

The LAN9218 family of products is designed to offer high throughput and includes slave-DMA support, as well as Memory Alignment Technology, which reduces CPU overhead by eliminating buffer copying. A complete list of features is shown in the table below:

FEATURES	BENEFITS	LAN9218 Family				
		9218I	9218	9215I	9215	9217
HP Auto-MDIX	Eliminates the need for special "crossover" cables when connecting LAN devices together	X	X	X	X	X
Industrial Temp Range	Supports -40°C to +85°C environments	X		X		
32-bit host interface	Allows high-performance	X	X			
16-bit host interface	Interfaces to Legacy 16-bit processors	X	X	X	X	X
External MII Interface	Allows use of external PHY			X	X	X
16k Byte Internal SRAM	Stores up to 200 packets	X	X	X	X	X
Support for DMA Controllers	Performance, Reduces CPU Overhead	X	X	X	X	X
Memory Alignment Technology	Eliminates buffer copying	X	X	X	X	X
Flow Control	Significantly reduces dropped packets	X	X	X	X	X
Wake-on-LAN / Magic Packet	Allow low-power modes of operation for handheld applications	X	X	X	X	X
Reduced Power Modes	Allow low-power modes of operation for handheld applications	X	X	X	X	X

Software Drivers

Software drivers are available for the following host processors and operating systems:

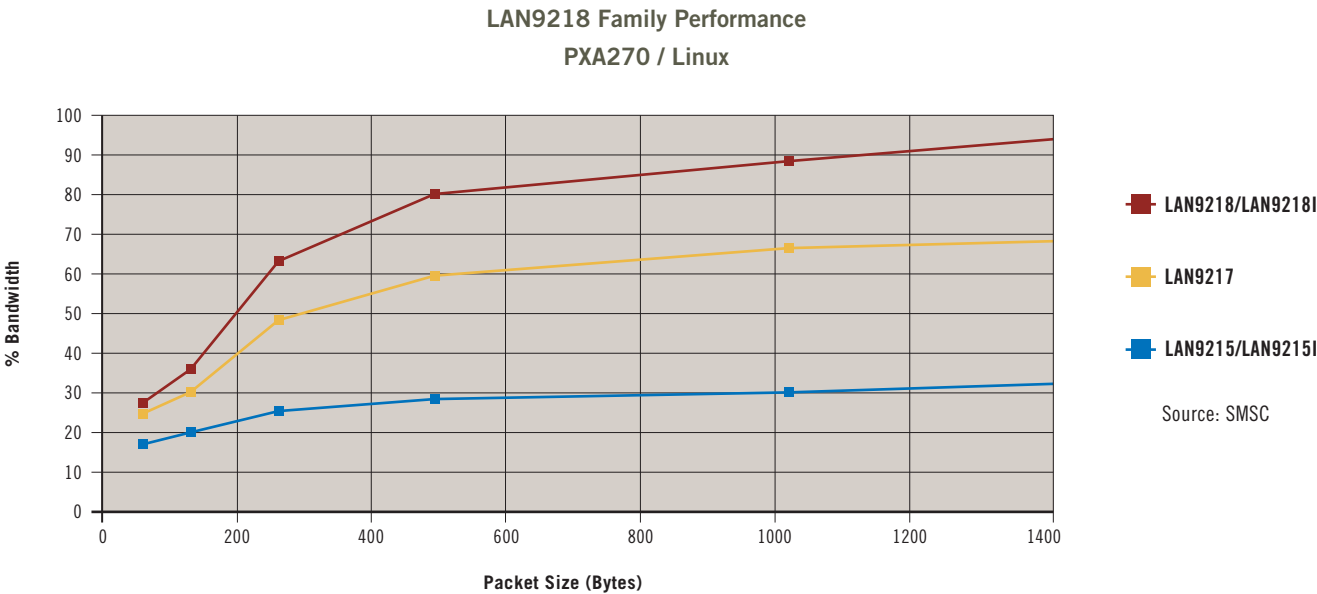
- Linux® 2.6 for XScale® (PXA270) Rev 1.25
- Linux 2.6 for SH3 Rev 1.25
- Windows® CE 5.0 for XScale (PXA270) Rev 1.06

Performance Table

	XScale (PXA270) / Linux	SH3 (7709S) / Linux
LAN9218, LAN9218I	90 Mbps	45 Mbps
LAN9217	65 Mbps	35 Mbps
LAN9215, LAN9215I	30 Mbps	25 Mbps

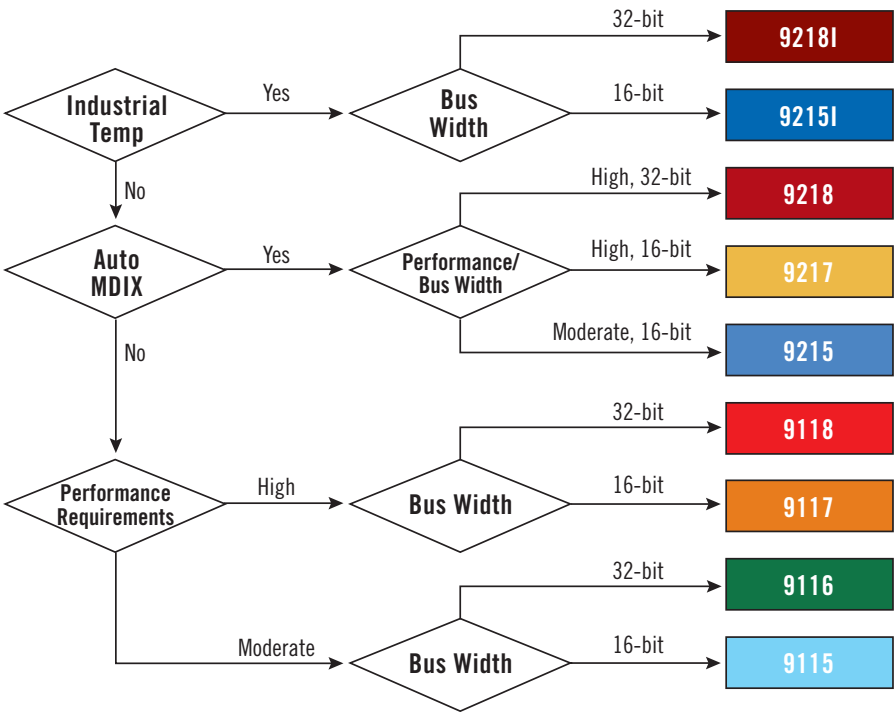
Note: The results shown in the performance table and performance chart are based on actual measurements on evaluation platforms developed by SMSC, and are meant only as a general guideline, not as a guarantee. Actual customer results may vary based on a number of factors, including exact processor model, speed, system architecture, application software, variances in operating system and network stack and measurement technique.

Performance Chart



Results are based on the target device installed on an Intel XScale PXA270 platform, running under a Linux O/S, connected via a full-duplex link to a Smartbits tester running an ICMP echo test.

Which LAN9218 Family Device Is Right For Your Design?



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