

EVB-LAN9500A-LC Evaluation Board User Manual



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1 Introduction

The LAN9500A is a high performance, small form factor solution for USB to 10/100 Ethernet port bridging. With applications ranging from embedded systems, set-top boxes, and PVR's, to USB port replicators, USB to Ethernet adapters, PC docking stations, and test instrumentation, the LAN9500A is targeted as a high performance, low cost USB/Ethernet connectivity solution.

The LAN9500A contains an integrated 10/100 Ethernet PHY, USB PHY, Hi-Speed USB 2.0 device controller, 10/100 Ethernet MAC, TAP controller, EEPROM controller, and a FIFO controller with a total of 30 KB of internal packet buffering. The LAN9500A complies with the IEEE 802.3 (full/half-duplex 10BASE-T and 100BASE-TX) Ethernet protocol and USB 2.0 specification, enabling compatibility with industry standard Fast Ethernet and USB 2.0 applications.

The EVB-LAN9500A-LC is an Evaluation Board (EVB) that utilizes the LAN9500A to provide a fully functional, bus-powered USB to Ethernet interface. The EVB-LAN9500A-LC provides fully integrated Ethernet and USB ports via the onboard RJ45 and USB Type A connectors. The onboard 256x8 EEPROM is used to load the EVB-LAN9500A-LC's USB configuration parameters and MAC address.

LAN9500A software drivers are available for Windows XP, Windows Vista, Mac OS X, Linux, and Windows CE. Additional manufacturing and diagnostic tools are available for debugging and external EEPROM configuration. For complete details, refer to the "LAN9500A Software User Manual".

A simplified block diagram of the EVB-LAN9500A-LC can be seen in [Figure 1.1](#).

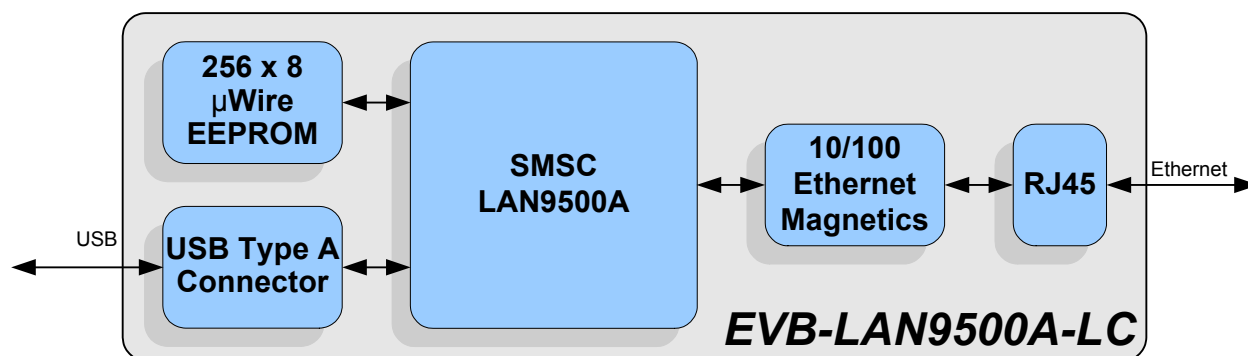


Figure 1.1 EVB-LAN9500A-LC Block Diagram

1.1 References

Concepts and material available in the following documents may be helpful when using the EVB-LAN9500A-LC.

Table 1.1 References

| DOCUMENT | LOCATION |
|---|---|
| SMSC LAN9500A Datasheet | http://www.smc.com/lan9500a |
| AN8-13 Suggested Magnetics | http://www.smc.com/lan9500a |
| SMSC EVB-LAN9500A-LC Evaluation Board Schematic | http://www.smc.com/lan9500a |
| SMSC LAN9500A Software User Manual | http://www.smc.com/lan9500a |

2 Board Details

This section includes the following EVB-LAN9500A-LC board details:

- Configuration
- Mechanicals

2.1 Configuration

The following sub-sections describe the various board features including LEDs, test points, and system connections. A top view of the EVB-LAN9500A-LC is shown in [Figure 2.1](#).

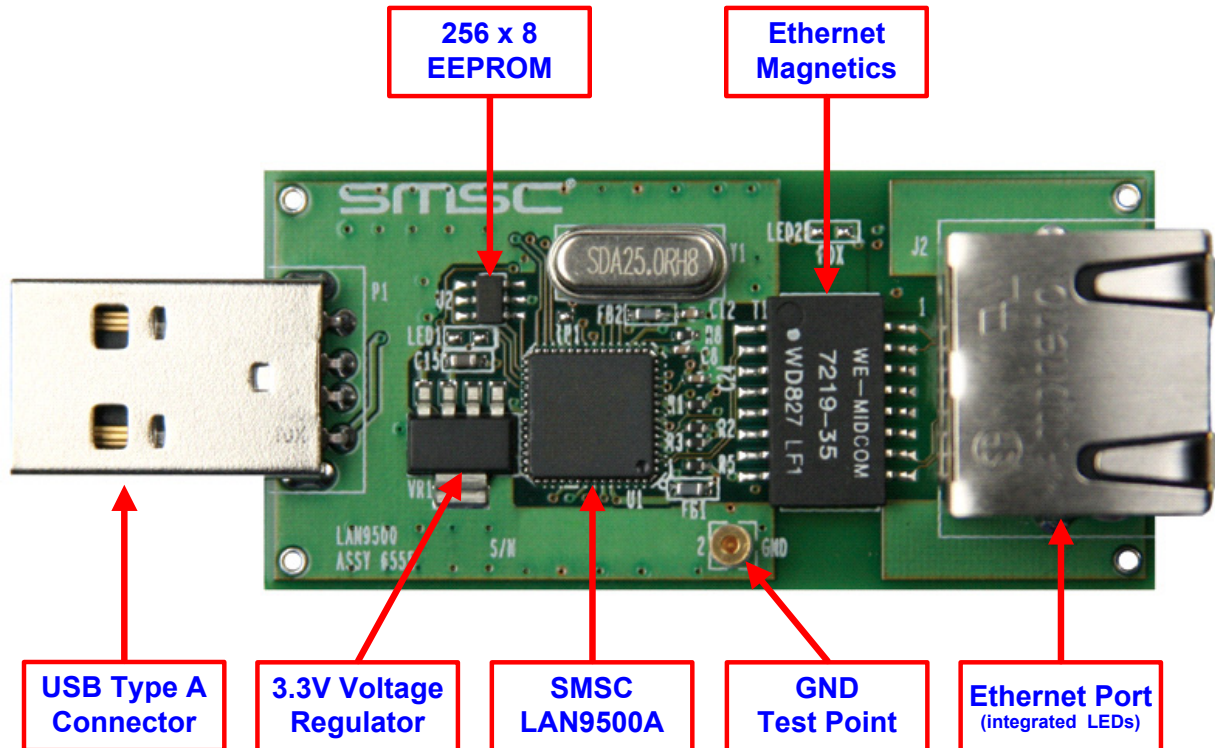


Figure 2.1 EVB-LAN9500A-LC Top View

2.1.1 LEDs

Table 2.1 LEDs

| REFERENCE | COLOR | INDICATION |
|-----------|--------|--|
| J2 | Green | Ethernet Link/Activity Solid : Link established Blinking : Link activity OFF : No link |
| | Yellow | Ethernet Speed ON : 100BASE-TX OFF : 10BASE-T |

2.1.2 Test Points

Table 2.2 Test Points

| TEST POINT | DESCRIPTION | CONNECTION |
|------------|-------------------------------------|------------|
| TP2 | Single Pin Gold Post GND Test Point | GND |

2.1.3 System Connections

Table 2.3 System Connections

| PLUG/HEADER | DESCRIPTION | PART |
|-------------|---------------------------|---------------------|
| P1 | USB Type-A Plug | Molex 48037-0001 |
| J2 | RJ45 with Integrated LEDs | Amphenol RJHSE-5381 |

2.2 Mechanicals

Figure 2.2 details the EVB-LAN9500A-LC mechanical dimensions.

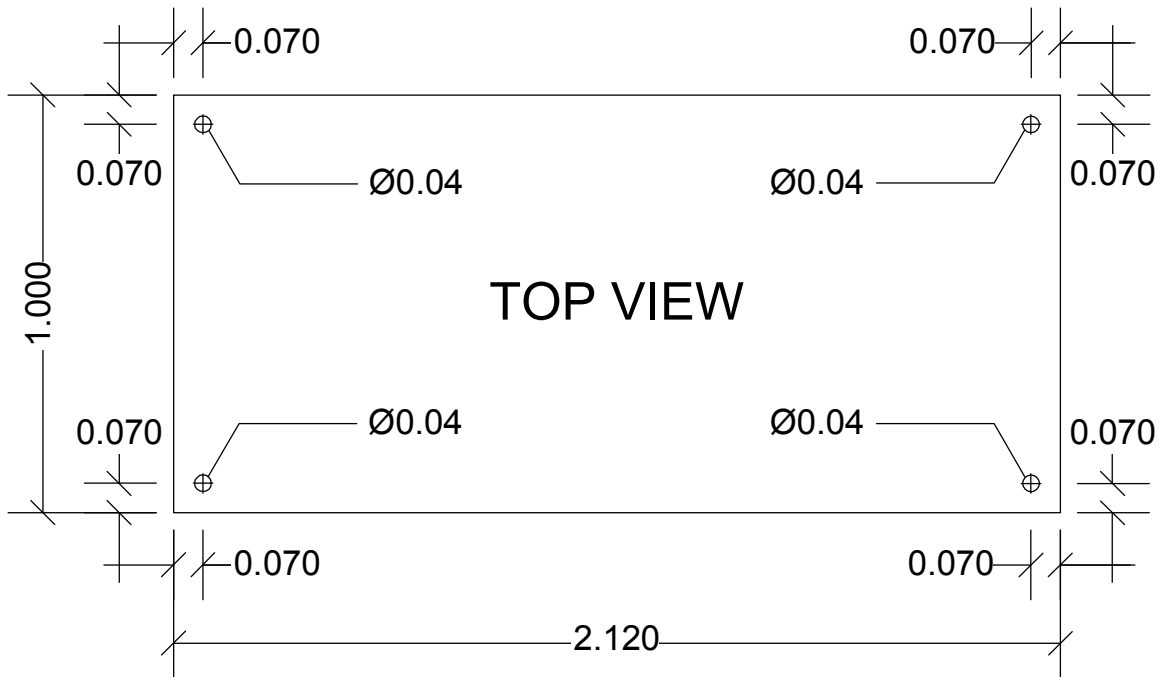


Figure 2.2 EVB-LAN9500A-LC Mechanicals

3 Revision History

Table 3.1 Revision History

| REVISION LEVEL & DATE | SECTION/FIGURE/ENTRY | CORRECTION |
|-----------------------|----------------------|--|
| Rev. 1.0 (12-04-12) | | Document co-branded: Microchip logo added, modification to legal disclaimer. |
| Rev. 1.0 (02-02-10) | | Initial Release |

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