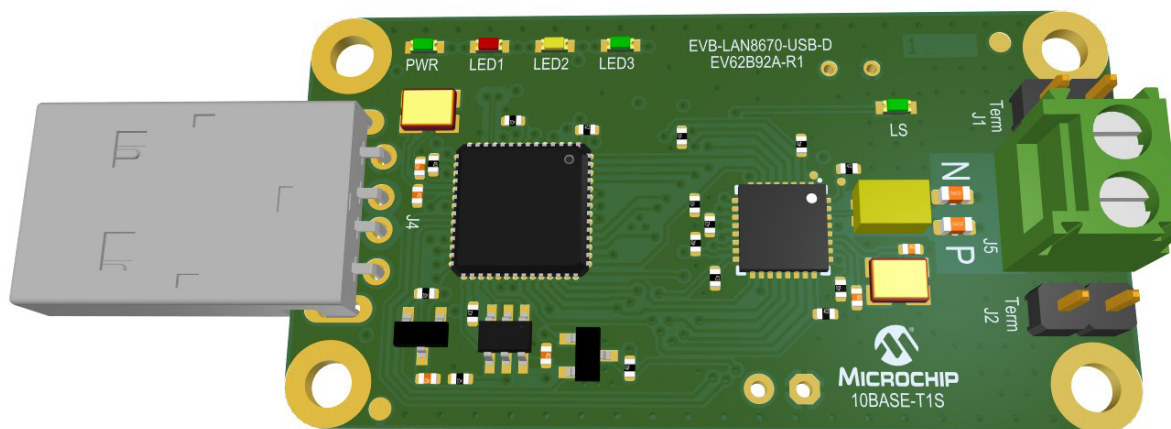


Overview

The EVB-LAN8670-USB-D utilizes Microchip's LAN9500A, which is a Hi-Speed USB 2.0 to 10/100 Ethernet controller, to interconnect a USB interface with a 10BASE-T1S Ethernet network interface. Thus, the adapter serves as a network card that connects applications via USB to the 10BASE-T1S network interface.



Product Features

- USB to 10BASE-T1S interface card
- 10BASE-T1S single-pair Ethernet physical layer transceiver LAN8670
- Supports multidrop mixing segments
- Connects to a USB host
- Physical Layer Collision Avoidance (PLCA)
- Screw terminal for direct cable connection (no connector needed)
- Configurable on-board termination

NOTICE

This User's Guide, although specific to the LAN8670, can provide some useful information for those implementing the LAN8671 within their designs. Please contact [Microchip Support and Sales](#) for additional evaluation board information and for further support with your evaluation needs.

Table of Contents

1. Preface.....	3
1.1. Intended Use.....	3
2. Board Details.....	4
2.1. Electrical Characteristics.....	4
2.2. Connectors.....	4
2.2.1. USB Connector.....	4
2.2.2. Network Connector.....	4
2.3. Jumpers.....	4
2.3.1. Termination Jumpers.....	4
2.4. LEDs.....	5
3. Assembly Plan and Mechanical Dimensions.....	6
3.1. Top View and Mechanical Dimensions.....	6
3.2. Bottom View.....	6
4. Revision History.....	7
Microchip Information.....	8
Trademarks.....	8
Legal Notice.....	8
Microchip Devices Code Protection Feature.....	8

1. Preface

1.1. Intended Use

This Microchip product is intended to be used for developing or functional testing of control and sensor networks by persons with experience in this field of knowledge.

**Important:**

The operation of this Microchip product is only admitted with original Microchip devices.

Do not interfere with the product's original state. Otherwise, user safety, faultless operation and electromagnetic compatibility are not ensured. To avoid electric shocks and short circuits use this device only in an appropriate environment.

This open device may exceed the limits of electromagnetic interference. Electromagnetic compatibility can only be achieved if the equipment is built into an appropriate housing.

2. Board Details

2.1. Electrical Characteristics

Table 2-1. USB Connector Voltage

Parameter	Min.	Typ.	Max.	Unit
USB Connector Voltage	4.75	5	5.25	V

2.2. Connectors

All connectors are mounted on the top side of the board.

2.2.1. USB Connector

The EVB-LAN8670-USB-D provides a USB connector (J4) to connect to a USB device.

Type:	0480370001, standard type A, from Molex®
--------------	--

2.2.2. Network Connector

The network connector (J5) is used as the interface to the network.

Type:	691214110002, fixed terminal block, from Würth Elektronik
--------------	---

The terminal pins are described in the table below.

Table 2-2. J5 – Pin Description

Pin	Description
Terminal 1	TRX_P
Terminal 2	TRX_N

2.3. Jumpers

All jumpers are mounted on the top side of the board. The location of the jumpers is depicted in [Figure 3-1](#).

2.3.1. Termination Jumpers

The termination jumpers (J1 and J2) are used for enabling 100 Ohm edge termination at the ends of a 10BASE-T1S segment.



Important: Both jumpers must be closed to enable edge termination.

2.4. LEDs

All LEDs are mounted on the top side of the board.

The table below provides an overview of the LEDs and the states they signal.

Table 2-3. LEDs

Name	State	Description	Note
PWR	Off	The EVB-LAN8670-USB-D is not powered.	—
	On (green)	The EVB-LAN8670-USB-D is powered.	
LED1	Off	Future use	
	On (red)		
LED2	Off	The EVB-LAN8670-USB-D does not send or receive data.	It is recommended to use the latest Windows [*] or Linux [*] driver, which can be found at: www.microchip.com/en-us/development-tool/EV62B92A
	Blinking (yellow)	The EVB-LAN8670-USB-D sends or receives data.	
LED3	Off	Future use	—
	On (green)		
LS	Off	Network link is down.	
	On (green)	Network link is up.	

4. Revision History

Revision	Date	Entry	Comment
60001917A	2026-03-16	Initial release of this document This document refers to the <i>EVB-LAN8670-USB-D</i> , <i>EV62B92A-R1</i> evaluation board	

Microchip Information

Trademarks

The “Microchip” name and logo, the “M” logo, and other names, logos, and brands are registered and unregistered trademarks of Microchip Technology Incorporated or its affiliates and/or subsidiaries in the United States and/or other countries (“Microchip Trademarks”). Information regarding Microchip Trademarks can be found at <https://www.microchip.com/en-us/about/legal-information/microchip-trademarks>.

ISBN: 979-8-3371-2871-9

Legal Notice

This publication and the information herein may be used only with Microchip products, including to design, test, and integrate Microchip products with your application. Use of this information in any other manner violates these terms. Information regarding device applications is provided only for your convenience and may be superseded by updates. It is your responsibility to ensure that your application meets with your specifications. Contact your local Microchip sales office for additional support or, obtain additional support at www.microchip.com/en-us/support/design-help/client-support-services.

THIS INFORMATION IS PROVIDED BY MICROCHIP “AS IS”. MICROCHIP MAKES NO REPRESENTATIONS OR WARRANTIES OF ANY KIND WHETHER EXPRESS OR IMPLIED, WRITTEN OR ORAL, STATUTORY OR OTHERWISE, RELATED TO THE INFORMATION INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY, AND FITNESS FOR A PARTICULAR PURPOSE, OR WARRANTIES RELATED TO ITS CONDITION, QUALITY, OR PERFORMANCE.

IN NO EVENT WILL MICROCHIP BE LIABLE FOR ANY INDIRECT, SPECIAL, PUNITIVE, INCIDENTAL, OR CONSEQUENTIAL LOSS, DAMAGE, COST, OR EXPENSE OF ANY KIND WHATSOEVER RELATED TO THE INFORMATION OR ITS USE, HOWEVER CAUSED, EVEN IF MICROCHIP HAS BEEN ADVISED OF THE POSSIBILITY OR THE DAMAGES ARE FORESEEABLE. TO THE FULLEST EXTENT ALLOWED BY LAW, MICROCHIP’S TOTAL LIABILITY ON ALL CLAIMS IN ANY WAY RELATED TO THE INFORMATION OR ITS USE WILL NOT EXCEED THE AMOUNT OF FEES, IF ANY, THAT YOU HAVE PAID DIRECTLY TO MICROCHIP FOR THE INFORMATION.

Use of Microchip devices in life support and/or safety applications is entirely at the buyer’s risk, and the buyer agrees to defend, indemnify and hold harmless Microchip from any and all damages, claims, suits, or expenses resulting from such use. No licenses are conveyed, implicitly or otherwise, under any Microchip intellectual property rights unless otherwise stated.

Microchip Devices Code Protection Feature

Note the following details of the code protection feature on Microchip products:

- Microchip products meet the specifications contained in their particular Microchip Data Sheet.
- Microchip believes that its family of products is secure when used in the intended manner, within operating specifications, and under normal conditions.
- Microchip values and aggressively protects its intellectual property rights. Attempts to breach the code protection features of Microchip products are strictly prohibited and may violate the Digital Millennium Copyright Act.
- Neither Microchip nor any other semiconductor manufacturer can guarantee the security of its code. Code protection does not mean that we are guaranteeing the product is “unbreakable”. Code protection is constantly evolving. Microchip is committed to continuously improving the code protection features of our products.