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# Ethernet MAC library

The Ethernet MAC library provides a complete, software defined, Ethernet MAC that supports 10/100/1000 Mb/s data rates and is designed to IEEE Std 802.3-2002 specifications.

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## Features

- 10/100/1000 Mb/s full-duplex operation
- Media Independent Interface (MII) and Reduced Gigabit Media Independent Interface (RGMI) to the physical layer
- Configurable Ethertype and MAC address filters for unicast, multicast and broadcast addresses
- Frame alignment, CRC, and frame length error detection
- IEEE 802.1Q Audio Video Bridging priority queueing and credit based traffic shaper
- Support for VLAN-tagged frames
- Transmit and receive frame timestamp support for IEEE 1588 and 802.1AS
- Management Data Input/Output (MDIO) Interface for physical layer management

## Components

- 10/100 Mb/s Ethernet MAC
- 10/100 Mb/s Ethernet MAC with real-time features
- 10/100/1000 Mb/s Ethernet MAC with real-time features (xCORE-200 XE/XEF)
- Raw MII interface

## Software version and dependencies

This document pertains to version 3.0.1 of this library. It is known to work on version 14.0.1 of the xTIMEcomposer tools suite, it may work on other versions.

This library depends on the following other libraries:

- lib\_logging ( $\geq 2.0.0$ )
- lib\_locks ( $\geq 2.0.0$ )
- lib\_xassert ( $\geq 2.0.0$ )
- lib\_gpio ( $\geq 1.0.0$ )