

# Report

## Open Source Licenses for RT-Kernel

Kvaser AB

Attachments



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## 1 Introduction

This document contains a list of the relevant licenses for all open-source components contained in the target platform produced by RT-Labs for Kvaser AB.

The target platform is the code that runs on the target hardware.

## 2 GCC Target Libraries

### 2.1 libgcc.a

#### 2.1.1 Name and version of the included component

GCC Version 4.6.3 with no patches affecting libgcc.a

#### 2.1.2 The name and full text of the license

GPL version 3 with GCC Runtime Library Exception. See Appendix A for full text.

#### 2.1.3 Allowable use of component

The binary code generated via the component can be distributed under any terms.

#### 2.1.4 Functionality and relevance in the target platform

Most of the routines in libgcc handle arithmetic operations that the target processor cannot perform directly. This includes integer multiply and divide on some machines, and all floating-point and fixed-point operations on other machines. libgcc also includes routines for exception handling, and a handful of miscellaneous operations.

## 3 Newlib Target Libraries

### 3.1 libc.a/libm.a

#### 3.1.1 Name and version of the included component

Newlib 1.20.0 with the following patches:

- newlib-1.20.0-rtk.patch – RT-Kernel support routines
- newlib-1.20.0-rtk-autoconf.patch – RT-Kernel build options
- newlib-1.18.0-arm.patch – remove machine/param.h
- newlib-1.19.0-atexit.patch – fix atexit mutex lock

All patches are available upon request.

#### 3.1.2 The name and full text of the license

Newlib is a collection of software from several sources. All of the applicable licensing is either public domain or BSD-like. The full list of license is available in the file COPYING.NEWLIB which is included in Appendix B.

Note that some Linux-specific files are under the LGPL license. These files have been excluded from compilation and are not present in the rt-collab Toolbox release.

#### 3.1.3 Allowable use of component

The source and binary code can be freely distributed.

#### 3.1.4 Functionality and relevance in the target platform

Newlib provides the C runtime library.

## 4 RT-Kernel RTOS

### 4.1 TLSF memory allocator

#### 4.1.1 Name and version of the included component

Two Level Segregated Fit memory allocator, version 1.8, with RT-Kernel patches.

All patches are available upon request.

#### 4.1.2 The name and full text of the license

This implementation of TLSF is placed in the public domain. See Appendix C for full text.

#### 4.1.3 Allowable use of component

The source and binary code can be freely distributed.

#### 4.1.4 Functionality and relevance in the target platform

TLSF provides a memory allocator for managing a heap of dynamically allocated memory.

## 5 Appendix A – GPL version 3 with GCC Runtime Library Exception

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(33) - Daniel Eischen (targets using libc/posix)

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(34) - Jon Beniston (only lm32-\* targets)

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## 7 Appendix C – TLSF

```
/*  
** Two Level Segregated Fit memory allocator , version 1.8.  
** Written by Matthew Conte, and placed in the Public Domain.  
**   http://tlsf.baisoku.org  
**  
** Based on the original documentation by Miguel Masmano:  
**   http://rtportal.upv.es/rtmalloc/allocators/tlsf/index.shtml  
**  
** Please see the accompanying Readme.txt for implementation  
** notes and caveats.  
**  
** This implementation was written to the specification  
** of the document, therefore no GPL restrictions apply.  
*/
```