AB1561/AB1562/AB1563 SDK Open Source Software Guide

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Document Revision History

Revision	Date	Description
1.0	6 March 2020	Initial release
1.1	13 August 2020	Added support AB1561/AB1563, document renamed to “AB1561_AB1562_AB1563_SDK_Open_Source_Software_Guide”.

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1. Overview

Airoha offers an SDK with mainstream open source software to help developers build their projects with globally available resources and complete control over the software.

This guide shows the open source software that is bundled with the SDK. It provides information about the open source software packages and guides developers in the design, prototyping, and implementation of projects in a convenient environment.

As an open source software package, the information is already available from various sources. This guide provides an easy-to-use reference to the module descriptions, including the official website and the hardware or software integration versions. Developers can access the latest source code from the official website and use it to merge or replace the code in the package with a corresponding version. Before starting your own project or application development, please look into example applications and their source code.

1.1. Open source software resources for the SDK

The open source software packages in the SDK are listed in Table 1 and for the developer's reference only. The developer acknowledges that such listed open source software may be supplemented or amended by Airoha from time to time. The developer must comply with all licensing terms applicable to such open source software. Airoha makes the following disclaimers regarding the open source software on behalf of itself, and the copyright holders, contributors, and licensors of the listed open source software:

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Table 1. Open source packages

Module	Open source software licenses	Comments
RTOS	FreeRTOS License: MIT License Please refer to the license disclaimer in source/kernel/FreeRTOS/include/FreeRTOS.h Note: FreeRTOS V10 and later version are distributed under the MIT license. http://www.freertos.org/a00114.html	A market-leading de-facto standard operating system for embedded systems. Note: The GPL requires you to make the modified source code available to the program's users, under the GPL. Airoha takes advantage of the GPL and has made modifications to best suit desired purposed, and now makes the source available. So that customers should also make this source code available. For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. Please check https://www.freertos.org/gpl-2.0.txt to get more information.
SSL/TLS	mbed TLS License: Apache 2.0 License http://www.apache.org/licenses/LICENSE-2.0	AN easy to use SSL/TLS library (including cryptographic and SSL/TLS capabilities) with small footprint.
FatFs	FatFs License: BSD-style licenses http://elm-chan.org/fsw/ff/pf/appnote.html	FatFs is a generic FAT file system module for small embedded systems.
LZMA decoder	LZMA License: public domain http://www.7-zip.org/sdk.html	LZMA decoder is extracted from the LZMASDK for further use.
LZ4	LZ4 License: BSD 2-Clause license https://github.com/lz4/lz4	LZ4 is a compress/decompress library.
Micro-ecc	micro-ecc License: BSD 2-Clause "Simplified" https://github.com/kmackay/micro-ecc	A small and fast ECDH and ECDSA implementation for 8-bit, 32-bit, and 64-bit processors.
nanopb	nanopb License: zlib License https://jpa.kapsi.fi/nanopb/	A C implementation of Google's Protocol Buffers
Opus	Opus License: BSD 3-Clause license http://opus-codec.org/downloads/	A highly versatile audio codec.

The SDK open source packages are implemented by the active open source community with widely available online resources and forum support. The list of online resources is provided for each module in Table 2. The integrated versions are also included for developers to merge hot bug fixes or new features directly from the official release links.

Table 2. Online resources for each module in the SDK

Module	Official website	Integrated version	Online API reference
RTOS	http://www.freertos.org/RTOS.html	10.1.1	http://www.freertos.org/a00106.html
SSL/TLS	https://tls.mbed.org/	2.6.0	https://tls.mbed.org/api/
FatFs	http://elm-chan.org/fsw/ff/00index_e.html	R0.12	http://elm-chan.org/fsw/ff/00index_e.html
LZMA decoder	http://www.7-zip.org/sdk.html	17.01	http://www.7-zip.org/sdk.html
LZ4	https://github.com/lz4/lz4	1.9.2	https://github.com/lz4/lz4
Micro-ecc	https://github.com/kmackay/micro-ecc	https://github.com/kmackay/micro-ecc/commits/master Commit ID: 601bd11	https://github.com/kmackay/micro-ecc
nanopb	https://jpa.kapsi.fi/nanopb/	0.4.0-dev	Private used by Amazon AMA.
Opus	https://opus-codec.org/	1.3	https://opus-codec.org/docs/

The source location for the modules listed in Table 2 is shown in Figure 1.

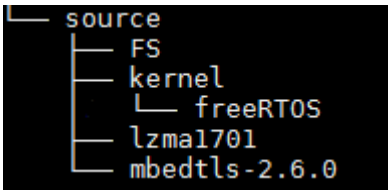

Figure 1. Source location of SDK open source software