

ZLS38100 P2.0.0 RELEASE

Purpose

This document provides an overview of the ZLS38100 SDK P2.0.0 release, including known issues and limitations.

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1 RELEASE SUMMARY

ZLS38100 P2.0.0 SDK is a complete portable software package used for integrating the Microsemi VPROC devices with various host platforms.

Currently, the SDK supports Microsemi Timberwolf family of voice processor devices and therefore the SDK content references in this document pertain only to the Timberwolf device family.

2 CHANGE HISTORY

Please note ZLS38100 P2.0.0 is **backward incompatible** to earlier ZLS38100 P1.0 Release and that any application already ported to P1.0 would need to a re-port to ZLS38100 P2.0.0.

3 KIT CONTENTS

The ZLS38100 SDK consists of the following components:

1. Readme—Document providing an SDK overview.
2. HBI Driver—Host bus interface driver for the Microsemi Timberwolf device family.
3. SSL Driver—Platform specific abstraction layer for the HBI driver.
The driver can be compiled to create one of the following modules:
 - SPI: To enable SPI as the control path between the host and the Microsemi voice processor device.
 - I2C: To enable I2C as the control path between the host and the Microsemi voice processor device.The SDK comes with reference SSL driver implementation for some of the host platforms. A reference SSL driver implementation for different host platforms can be found in the `/platform` directory.
4. Codec driver—Platform specific sound driver to setup data path between the Microsemi VPROC device and the host platform. Reference implementations are available in the `/platform` directory.
5. Sample Apps—Test various features of HBI driver. Available in `/apps` directory. Platform specific sample applications are available in the `/platform` directory.
6. Tools—Microsemi's utility tool to convert firmware and configuration record to binary and/or C output.
7. Docs—Documentation for package. Platform-specific documentation available inside `/platform/<platform directory>/docs`. Please refer to same for build instructions on specific supported platform.

4 RELEASE FEATURES

4.1 Supported Devices

The ZLS38100 SDK supports all the common features of the entire range of Microsemi Timberwolf devices including ZL38040, ZL3805x, ZL3806x, and ZL3808x.

Features that are specific to a device can be enabled by setting the make variable `CHIP` during the compile time. For example, to test a distinctive feature such as direction-of-arrival of ZL38051, you can set `CHIP=38051` before compiling sample app.

4.2 HBI Driver

ZLS38100 host bus interface driver supports:

- SPI or I2C interface
- Device booting from host
- Flash save, read, and erase operations
- Device read/write—2 bytes to 256 bytes. All read/write access must be a multiple of 16.
- Multiple devices access

For details, refer to `ZLS38100_SDK_API_Specification.pdf` in the `/docs` folder.

For Linux-based system, also refer to `ZLS38100_HBI_Linux_Driver_Specification.pdf`.

4.3 Tool

ZLS38100 P2.0.0 Release does **not** support s3 based firmware image HBI boot loading of device. It **only** supports binary or C-style image as generated by utility provided in `./tools` directory. Thus it is **mandatory** for user to run utility app to first convert an *.s3 firmware image to either .bin or .c based file before initiating firmware image loading to device.

Instructions to build and run convertor utility is provided in `readme` file inside `./tools` directory

Tool directory contains a utility function to convert the firmware and/or configuration record file to following:

- *.bin image—Inputs S-record based firmware image and output .bin image. If the platform supports the file system, then .bin file is used for dynamic boot loading.
- C-based—Inputs S-record based firmware image and output .h file. Used for static compilation of image with the SDK.

Similarly, configuration record is available in two forms:

- *.cr2 image—Used for dynamic file loading.
- C-based—Inputs an ASCII text file and output .c and .h files for static compilation of configuration record.

To use static image, generate the .c/.h file by running the firmware conversion tool in the `./tools` directory. Replace the generated .c/.h files in the SDK sample application used for boot loading or configuration record loading.

For information on using the firmware/configuration record conversion for static compilation, refer to `tools/readme.txt`.

4.4 Apps

This directory contains sample applications to test the HBI driver on the host platform. The sample applications are available in the `/apps` directory, and the description of the sample applications is available in the `/docs` directory. Some platforms have specific apps, which are compile-able only on their system. Such platform-specific apps are available in the `/platform` directory.

5 RELEASE LIMITATIONS AND ERRATA

5.1 Limitations

None

5.2 Known Issues

None

