NXP USB Stack Product Brief

Contents

1. Software Product Overview

The USB stack is an implementation of the USB standard. It is a port of the Kinetis USBstack on NXP's automotive processors.

The current implementation supports:

- Mass storage devices on both the host controller and the OTG interface. The file system is an open source project, supported by Elm Chan and for the latest news andreleases please check: *http://elm-chan.org/fsw/ff/00index_e.html.*

- USB CDC-ECM communication model running on both the host controller and OTG interface (stack acting as a host)

- USB CDC peripheral/device mode (communication through Virtual Serial COM Port)(stack acting as a peripheral/device)

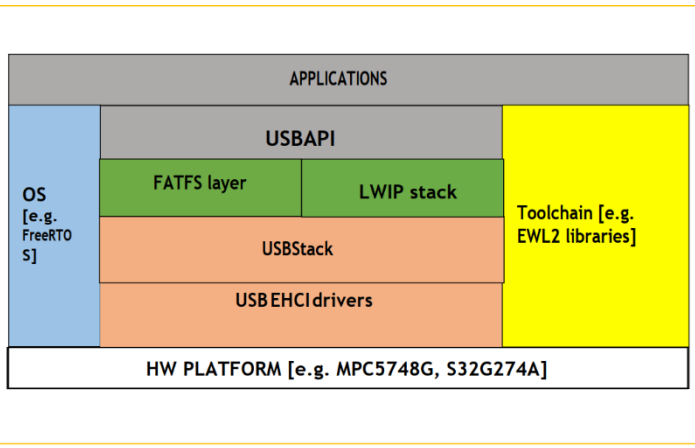

Figure 1. Architecture of USB stack

2. Software Content

The USB stack API consists of three parts:

- **USB API:** implementing USB specific instructions
- **FATFS API:** implementing file system functionality. This layer is independent of theUSB stack and it uses disk I/O operations to communicate with the mass storage device.
- **LWIPAPI:** implementing ENET read/write functionality. This layer is dependent on theUSB stack, as it reads and writes packets on the USB port.

3. Supported Targets

The following table shows the supported platforms for USB stack.

Table 1. Supported platforms, toolchains, etc.

Product	Devices	Toolchains	IDEs	Supported NXPSoftwares	OS
USB stack for MPC574XG	MPC574XG	GNU C, GHS, DIAB	S32 Design Studio	SDK drivers for MPC57XX family	Baremetal
USB stack for S32G2	S32G2	GNU C, GHS, DIAB	S32 Design Studio	RTD for S32G	Baremetal
USB stack for S32G3	S32G3	GNU C, GHS, DIAB	S32 Design Studio	RTD for S32G	Baremetal

4. Quality, Standards Compliance and Testing Approach

USB Stack is developed according to NXP Software Development Processes that are Automotive-SPICE, IATF 16949 and ISO9001 compliant.

5. Document Information

Table 2. Revision History

Revision	Date	Description
Rev 1.0	07/07/2021	Initial version
Rev 2.0	02/07/2023	Update

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