



ISO 9001 certified

embedded software
solutions

emUSB

Versatile

Easy to use

ISO/ANSI C source code

No royalties



USB Device Stack

+++ 8 / 16 / 32 - bit +++



emUSB has been designed to work on any embedded system with USB device controller. Ports for most common USB devices are available. It can be used with USB 1.1 or USB 2.0 devices.

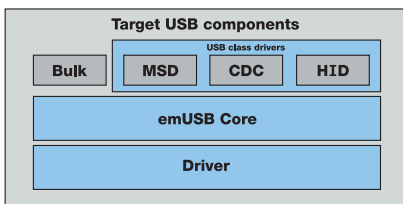
emUSB components

emUSB consists of three layers:

A driver for hardware access, the emUSB core and either a USB class driver or the bulk communication component. The different available hardware drivers, the USB class drivers and the bulk communication component are additional packages, which can be combined and ordered depending on the project requirements. The typical emUSB stack package consists of a target driver that fits the hardware, the emUSB core and either the bulk, MSD, CDC or HID component.

The USB standard defines 4 types of communication: Control, isochronous, interrupt and bulk. Experience shows that for most embedded devices bulk mode is the communication mode of choice. It allows usage of the full bandwidth of the USB bus.

The stack consists of an embedded side, which ships in source code form, and a driver for the PC, which is typically shipped as executable (.sys). (The source of the PC driver is also available.)



Components overview

Bulk component

emUSB-Bulk allows developers to quickly and painlessly develop software for an embedded device that communicates with a PC via USB.

The communication is like a single, high speed, reliable channel (very similar to a TCP connection). It basically allows the PC to send data to the embedded target, the embedded target to receive these bytes and reply with any number of bytes. The PC is the USB host, the target is the USB client.

MSD component

emUSB-MSD allows to use the embedded target device as a USB mass storage device. It can simply be used to plug-in the device and use it just like an ordinary disk drive, without the need to develop a kernel mode driver for the host operating system. This is possible because the mass storage class is one of the standard device classes, defined by the USB Implementers Forum. Virtually every major operating system on the market supports these device classes out of the box.

No custom kernel mode drivers necessary

Since every major OS already provides host drivers for USB mass storage devices, there is no need to implement your own. The target device will be

Features

- ISO/ANSI C source code
- Supports USB 1.1 / 2.0 devices
- Full/High Speed support
- Bulk communication component with Windows kernel mode driver available
- MSD component available
- MSD - CDRom support
- MSD supports any type of storage incl. NAND
- CDC component available
- HID component available
- Target drivers for most popular USB devices
- Start/test applications supplied
- No royalties

recognized as a mass storage device and can be accessed directly.

Typical applications

- Digital camera
- USB stick
- MP3 player
- DVD player
- Any target with USB interface:
Easy access to configuration and data files

CDC component

emUSB-CDC converts the target device into a serial communication device, meaning it is recognized by the host as a serial interface. (USB2COM, virtual COM port). It allows the use of software which is not designed to be used with USB, such as a device data-logger or terminal program.

emUSB can be used with any 8/16/32-bit microcontroller.
For more information please contact: sales@segger.com.