

## Overview

The USB MSC RAM disk application is a simple demonstration program that uses the KSDK software. It is enumerated as a u-disk and can be read and written to as a normal u-disk .

## System Requirement

### Hardware requirements

- J-Link ARM
- P&E Micro Multi-link universal
- Mini/micro USB cable
- USB A to micro AB cable
- Hardware (tower/base board, ...) for a specific device
- Personal Computer(PC)

### Software requirements

- The project files for lite version examples are located in:  
<SDK\_Install>/boards/<board>/usb\_examples/usb\_device\_msc\_ramdisk\_lite/<RTOS>/<toolchain>.  
For non-lite version example, the path is:  
<SDK\_Install>/boards/<board>/usb\_examples/usb\_device\_msc\_ramdisk/<RTOS>/<toolchain>.

Note

The RTOSes are bare metal and FreeRTOS OS.

## Getting Started

### Hardware Settings

- The Jumper settings:  
J11 5-6, J24 1-2 for micro USB connector. 1-2, J24 2-3, and remove J11 5-6 for using TWR-SER mini USB connector.

### Prepare the example

1. Download the program to the target board.
2. Connect the target board to the external power source (the example is self-powered).
3. Power off the target board. And then power on again.
4. Connect a USB cable between the PC and the USB device port of the board.

Note

For detailed instructions, see the appropriate board User's Guide.

## Run the example

1. Plug in the MSD disk device, which is running the `usb_device_msc_ramdisk` example into PC. A USB Mass Storage Device is enumerated in the Device Manager.
2. If you enable the RAM disk function, the windows prompts to format the u-disk.



Figure 1: Format the disk

When the format is completed, the computer will display the capacity of 4k removable disk.

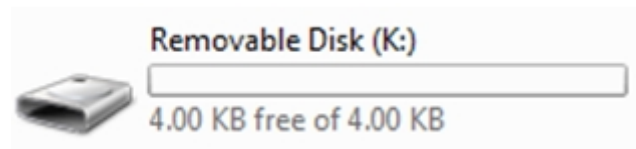


Figure 2: RAM u-disk

### Note

Mac OS 10.9 default creates `.fseventsd`, `.Trashes` folder, and some other files the disk is formatted on Mac OS. The total file size is about 8 K. If the USB mass storage example is running on Mac, increase the RAM size at least to 32 K. Change the `MACRO TOTAL_LOGICAL_ADDRESS_BLOCKS_NORMAL` in `disk.h` from 48 to 64. If the Mac OS 10.11 EI Capitan is used to format the disk, the least ram size should be 2.1 MByte. Otherwise, Mac OS shows "not enough space for allocate" and can't format the disk.