



Cvitek Flash Partition Tool User Guide

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CONTENTS

1	Disclaimer	2
2	Overview	3
2.1	Overview	3
3	EMMC Partition	4
3.1	Partitioning Method	4
3.2	How to Modify EMMC Partition Size	4
4	Nand Flash Partition	5
4.1	About mtd	5
4.2	How to Modify Nand Partition Size	5
5	Nor flash Partition	6
5.1	How to Modify NOR Partition Size	6

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OVERVIEW

2.1 Overview

This document mainly describes how the Cvteck SDK plans the partition of Flash. Flash can be divided into three types according to the current version of the Cvitek SDK: SPINOR, SPINAND, and EMMC. Subsequent chapters will explain according to different Flash Types.

EMMC PARTITION

3.1 Partitioning Method

The partitioning method is managed through the cmdline partition of the Linux Kernel. The required Kernel Configuration is as follows:

```
CONFIG_BLK_CMDLINE_PARSER=y
CONFIG_PARTITION_ADVANCED=y
CONFIG_CMDLINE_PARTITION=y
CONFIG_EFI_PARTITION=n
```

3.2 How to Modify EMMC Partition Size

1. cd build/boards/default/partition/
2. Revise the size of partitions in partition__emmc.xml, and recompile the bsp
3. After recompiling, an Image file with the corresponding partition size will be generated, and the desired burning location will be embedded in the Image Header. This will be passed to the Kernel for actual partitioning through the “blkdevparts” U-Boot environment variable area.

For more details, please refer to the following information:

<https://www.kernel.org/doc/Documentation/block/cmdline-partition.txt>

NAND FLASH PARTITION

4.1 About mtd

Memory Technology Device (MTD) is a category of device file system in the Linux system, mainly used for flash applications, and is a Flash Translation Layer (FTL). The main purpose of creating the MTD subsystem is to provide an abstraction layer between flash hardware drivers and high-level applications.

4.2 How to Modify Nand Partition Size

1. `cd build/boards/default/partition/`
2. Revise the size of partitions in `partition_spinand.xml`, and recompile the bsp (It is recommended to remove the “`size_in_kb`” attribute for the last partition in `partition_spinand.xml`. Doing so will automatically allocate the remaining space to the last sector based on the size of the NAND.)

Note: Partition sizes should be aligned with the erase size of the NAND flash, which can be found in the NAND flash specification manual. The current erase sizes are 128/256k. If you cannot obtain the erase size of the NAND flash, you can default to aligning with a 256k size.

NOR FLASH PARTITION

5.1 How to Modify NOR Partition Size

1. `cd build/boards/default/partition/`
2. Revise the size of each partition `size_in_kb` in `partition_spinor.xml`, and recompile bsp.

Note: The partition size needs to be aligned according to the erase size of the NOR flash. The driver supports 4/64k erase size. When enabling the option `CONFIG_USE_4K_ERASE_SIZE_FOR_JFFS2` in the SDK, the partition size needs to be aligned to 4k, otherwise it needs to be aligned to 64k.