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## Skip MPF OMAP User Manual

### General Description and Name

Skip MPF OMAP. This BBM has several partitions, and will skip bad blocks to write data to next good block in the same partition. Please note the first partition should be used for OMAP boot-loader. This BBM is only available when the boot-loader is smaller than one block.

### Relevant User Options

The following special features on the special features tab apply to this scheme. The default values might work in some cases but please make sure to set the right value according to your system.

Please note only the below special feature items are related to this scheme and ignore any others. If any of below items doesn't exist, please check whether the right version has been installed or contact Data I/O for support by submitting Device Support Request through this address:

<http://www.dataio.com/support/dsr.asp>

Bad Block Handling Type = "Skip MPF OMAP"

Spare area : Please refer to "Description of common NAND special features.pdf". *Normally set as "ECC" for this BBM.* [Default 'Disabled']

PartitionTable File = Point to a .mbn file which describes the partition.

Block ECC Type File = Point to a .csv file which describes the ECC type of each block

### Special Notes

Format of PartitionTable.mbn:

- a. Binary file fixed length 256 bytes.
- b. Organization: 16 rows x 4 columns. Each table item is 32-bits, little endian byte ordering.
- c. Each row of the table describes configuration for one partition. Up to 16 partitions can be used.
- d. Partition configuration:
  - i. **Start Adr**: address of start of partition in flash blocks. The programmer will set the file read pointer and the programmer write pointer to Start Adr. If Start Adr=0xFFFFFFFF, skip to the next partition.
  - ii. **End Adr**: last valid block in the current partition. The last data block programmed must be equal to or less than End Adr, otherwise the programmer will reject the flash device.

- iii. **Actual Data Length:** number of blocks of data to read from the input file and write to the flash in the current partition
- iv. **Attribute:** specify the attributes for current partition.

**Please note to keep: Actual Data Length + max bad blocks allowed <= End Adr - Start Adr + 1**

- v. Example PartitionTable.mbn file:



PartitionTable.mbn

NAND Flash Block			Attribute
Start Adr	End Adr	Actual Data Lenth	
0x01	0x03	0x01	Don't care
0x04	0x12	0x02	Don't care
0x14	0x33	0x19	Don't care
0x34	0xFFF	0x165	Don't care
0xFFFFFFFF	0xFFFFFFFF	0xFFFFFFFF	Don't care
0xFFFFFFFF	0xFFFFFFFF	0xFFFFFFFF	Don't care
0xFFFFFFFF	0xFFFFFFFF	0xFFFFFFFF	Don't care
0xFFFFFFFF	0xFFFFFFFF	0xFFFFFFFF	Don't care
0xFFFFFFFF	0xFFFFFFFF	0xFFFFFFFF	Don't care
0xFFFFFFFF	0xFFFFFFFF	0xFFFFFFFF	Don't care
0xFFFFFFFF	0xFFFFFFFF	0xFFFFFFFF	Don't care
0xFFFFFFFF	0xFFFFFFFF	0xFFFFFFFF	Don't care
0xFFFFFFFF	0xFFFFFFFF	0xFFFFFFFF	Don't care
0xFFFFFFFF	0xFFFFFFFF	0xFFFFFFFF	Don't care
0xFFFFFFFF	0xFFFFFFFF	0xFFFFFFFF	Don't care
0xFFFFFFFF	0xFFFFFFFF	0xFFFFFFFF	Don't care

Format of SW\_ECC\_BLOCK\_TABLE.CSV:

- a. First line is comment (must be "BLOCK;SW\_ECC")
- b. From second line, block number and ECC type is defined.
- c. From second line, the format must be as "BLOCKxx;y", "xx" is block number, "y" is "0" or "1" for appointing HW ECC or SW ECC.  
 Note: Please keep "xx" starting from "0" and increasing continuous, however, the program always ignore "xx", and treat it as comment.
- d. If block appointed in file is less than total block, the rest block will be calculated by default ECC type. For example, you can only appoint configuration with block 0 ~ 10 or block 0 ~ 63 (but cannot be block 10 ~ 63 which not start from block 0).
- e. Default ECC type:     Block 0 ~ 3             HW ECC  
                           Block 4 ~ 4095        SW ECC
- f. Example of SW\_ECC\_BLOCK\_TABLE.CSV file:

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```
1 BLOCK;SW_ECC
2 BLOCK0;0
3 BLOCK1;0
4 BLOCK2;0
5 BLOCK3;0
6 BLOCK4;1
7 BLOCK5;0
8 BLOCK6;0
9 BLOCK7;0
10 BLOCK8;0
11 BLOCK9;0
12 BLOCK10;0
```

## Revision History

- V1.0 Dec 1, 2010  
Create this spec.
- V1.1 Dec 14, 2010  
Add supporting ECC type configuration

## Appendix

You can get the file “Description of common NAND special features.pdf” from <http://ftp.dataio.com/FCNotes/BBM/>