

FIELD	SIZE	VALUE	Descriptions	total size	header size
magic_number	4bytes	0xAA55DD44	magic number to indicates this header existed, little endian	512bytes	1M(0x100000)bytes
magic_number	4bytes	0xEC44A5A5	if use NVIDA option, set this magic number to indicates NVIDA		
reserved		0xFF	reserved area		
extended_CSD(after program)	512bytes		refer the fields to eMMC4.4 specification. Please fill the value as what you expected.		
mask of extended CSD	512bytes		mask the fields which don't need modification, '1' masks the bit.		
reserved		0xFF	reserved area	6656bytes	
magic_number	4bytes	0xAA55EC33	magic number to indicates this super partition header area existed, little endian	1024bytes	
reserved	12bytes	0xFF	reserved area		
super partition information area			every partition record takes 16 bytes, 63 records at most. Please set the unused area as all 0xFF bytes. Little endian.		
reserved		0xFF	reserved area		
real_data		data	the customer's data which will be programmed to the device as super partition information specified.		

Notes

1st, For every byte in Extended CSD:

if the mask byte is 0xFF, then this byte will keep as it is;

Otherwise the programmed value will be $((CURRENT_VALUE \& MASK) | (EXPECTED_VALUE \& (\sim MASK)))$

CURRENT_VALUE is the value in the chip, EXPECTED_VALUE is what specified in this header.

2nd, The size of super partition information area is 1k - 16bytes, which can holds 63 pieces of partition records at most. The structure of each record is:

///
every block is 512 bytes currently,

DWORD part_bgn_blk; ///
this variable indicates the location of this partition within the physical partition (boot partition, general purpose partition or user data area).

DWORD data_bgn_blk; ///
the location of this partition within data file. (please don't include the 1M header.)

DWORD data_length_blk; ///
how many blocks of data file this partition occupies. Please NOTE these 2 variables should be TLwin sectors aligned.

DWORD attr; ///
the lowest byte indicate which physical partition it belongs to. the higher 3 bytes are reserved. 0 is user data area; 1&2 is boot area partiton 1 and 2; 3 ~ 6 are related to the general purpose partitions.

}

3rd, The whole file structure should be totally the same as "MMC44 Data File Organization" if don't consider this new super partition features.

3rd, "High Capacity Erase Group Size" should be used after configuring partitions.

4th, This document is for Data I/O customers only.