OLinuXino EEPROM content

Olimex Ltd.

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Contents

1 Introduction

2 Memory layout

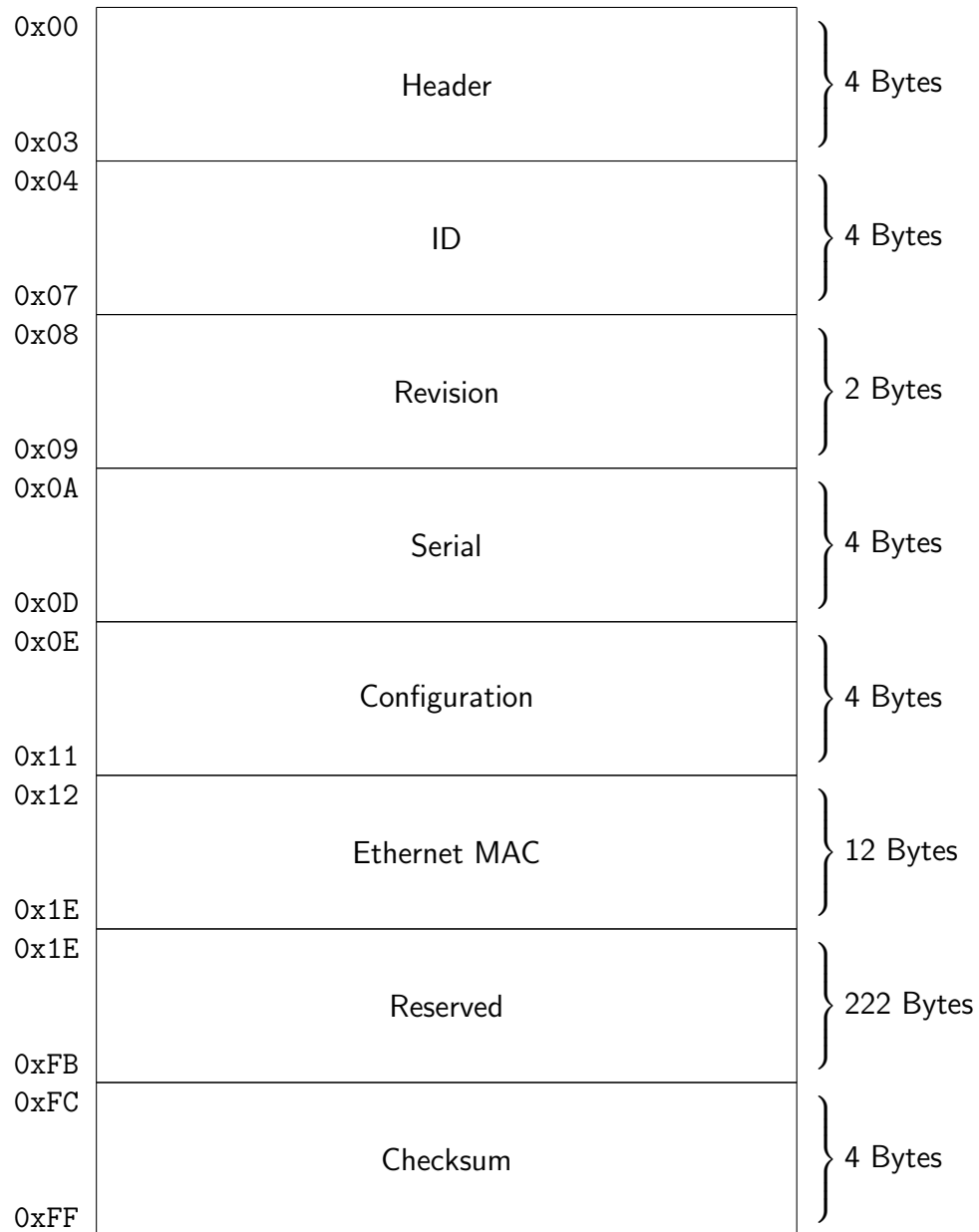| Address	Field	Size
0x00 – 0x03	Header	4 Bytes
0x04 – 0x07	ID	4 Bytes
0x08 – 0x09	Revision	2 Bytes
0x0A – 0x0D	Serial	4 Bytes
0x0E – 0x11	Configuration	4 Bytes
0x12 – 0x1E	Ethernet MAC	12 Bytes
0x1E – 0xFB	Reserved	222 Bytes
0xFC – 0xFF	Checksum	4 Bytes

Figure 1: Memory layout schematic

2.1 Header

Header is 4 bytes long. It marks the beginning of configuration page. It is hard-coded and always should be the same.

0x00	0x55	
0x01	0xAA	0x4F4CAA55
0x02	0x4C	
0x03	0x4F	

2.2 ID

ID field is 4 bytes long. Value is stored as unsigned int.

0x04	Byte0	
0x05	Byte1	8918
0x06	Byte2	
0x07	Byte3	

2.3 Revision

This section is 2 bytes long. It stores board revision number in ASCII code: *C*, *J1*, etc.

0x08	Major	"G5"
0x09	Minor	

Where:

- **Major** - General revision of the board, when there are big changes. For example: *A*, *B*, *C*, etc.

- **Minor** - When PCB is the same, but some values differ - resistors, capacitors, etc. If not used should be *00h*.

2.4 Serial

Serial number is hold as hexadecimal unsigned long int. It's sequential number.

0x0A	Byte0
0x0B	Byte1
0x0C	Byte2
0x0D	Byte3

0x12345678

2.5 Configuration

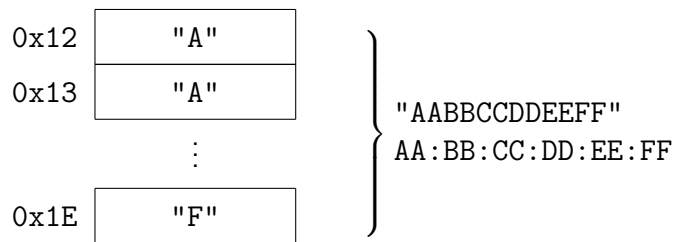This section is 4 bytes long. Here is stored board configuration - *NAND*, *eMMC*, etc.

0x0E	Storage
0x0F	Size
0x10	RAM
0x11	Grade

0x4E03

Where:

- **Storage** - Describes if there is external storage chip.

- **Size** - Capacity of the device. Usable only if "Storage" is different from 0xFF.

- **RAM** - RAM capacity.

- **Grade** - Board grade.

2.6 Ethernet MAC

The ethernet MAC address is stored as ASCII chars in 12 bytes.

```
0x12  |   "A"   |
0x13  |   "A"   |      }  "AABBCCDDEEFF"
       :              }  AA:BB:CC:DD:EE:FF
0x1E  |   "F"   |
```

3   Codes

Code	Description
0x00	Default value. No external storage.
0x45	eMMC chip.
0x4E	NAND chip.
0x53	SPI flash.

Table 1: Storage configuration codes

Code	Description
00	Size is 1B.
01	Size is 2B.
...	
10	Size is 1KB.
...	
20	Size is 1MB.
...	
30	Size is 1GB.
...	

Table 2: Size configuration codes

Code	Description
00	RAM is 1B.
01	RAM is 2B.
...	
10	RAM is 1KB.
...	
20	RAM is 1MB.
...	
30	RAM is 1GB.
...	

Table 3: RAM configuration codes

Code	Description
0x00	Commercial grade.
0x01	Industrial grade.

Table 4: Grade configuration codes

4 Revision

- Rev.A - 2 May 2017

  - Initial release

- Rev.B - 1 September 2017

  - Reworked layout

- Rev.C - 7 December 2017

  - Add Ethernet MAC node