4.32 Bit mode, Reading E2PROM

- Set up EEARH / L As the destination address, the address is 4 Byte alignment
- Set up EEPM [3: 1] = 010 Open 32 Bit interface mode
- Set up EERE = 1 ,start up E2PROM Read
- wait 2 A system clock cycle (execution of two NOP instruction)

E2PCTL Analog access E2PROM Space, support continuous programming mode, continuous mode to access an application needs to update data blocks are very efficient, but also help to improve FLASH Life. Continuous mode supports only programming 32 Data programming operation bit width.

Continuous access mode ECCR Register SWM Bit. SWM When enabled, followed by E2PCTL Write simulation E2PROM Space in the continuous operation mode programming. In successive programming mode, E2PCTL The controller automatically feed the data processing in the case where the target address. However, if occurs in a continuous feed during the programming mode, programming the controller in a continuous process, not automatically CP0 / 1 Data exchange area, it will not update the page information.

When programmed to continuously before the last operation, by clearing SWM Close continuous bit programming mode, then the non- SWM The last time the programming operation mode start after the end of the programming, E2PCTL Will automatically CP0 / 1 Copying data exchange area to the page, and the page update exchange, making the currently active page, thus completing the entire successive programming operation.

5. Process successive programming mode:

1. by ECCR Configuration Data FLASH The size and enable SWM Place
2. use 32 Bit mode simulation program E2PROM region
3. If this is not the last operation, go back to step 2 Under a continuing program data
4. If you reach the last program, first by SWM Prohibit successive programming mode, then step 2 of Operational processes completion of the last program

E2PCTL Efficient FLASH Data Management

E2PCTL In addition to programming the controller to achieve a continuous mode, can also ECCR Register CP0 / 1 Bits of data exchange paging process replication independent control. ECCR Register CP0 / 1 Exchange processes are used to control page for the current page CP0 / 1 Area data exchange operation. Clear CP0 / 1 Position, in the paging procedure does not exchange data area corresponding to the current page. An efficient management method provided in this section, will use this feature.

in FLASH Data update process, the most time-consuming operation occurs in the exchange page erase procedure. Therefore, we can address one kind of data management method to minimize the number of page erase, both to improve programming efficiency, life loss can be reduced.

Here we provide a reference algorithm for block-based data management application:

1. Assume that the user data is only a complete data block, data block size 4 Integer number of bytes;
2. Data update will update every time a complete data block
3. In addition to the block information storing user data, Also you need to store a block management information

Under the above three conditions, we can take full advantage E2PCTL Continuous programming mode and automatic paging mechanism to achieve a high efficiency FLASH Data management methods.

Since the data is updated each time a data block is the same size, and each block data structure is stored in the address information points to the next block of data, we can update the data every time in order of address programming FLASH Without making CP0 / 1 Data replication. And because every time the update data to a region has been erased, Page Erase does not occur.

When the last piece of data is written, at which point the configuration information back to the starting address of a data area of the page. This occurs after the data write operation, E2PCTL It will start the process of erasing a page, and update the currently active page.