NFC+ECC

Nand Flash Controller + ECC Module

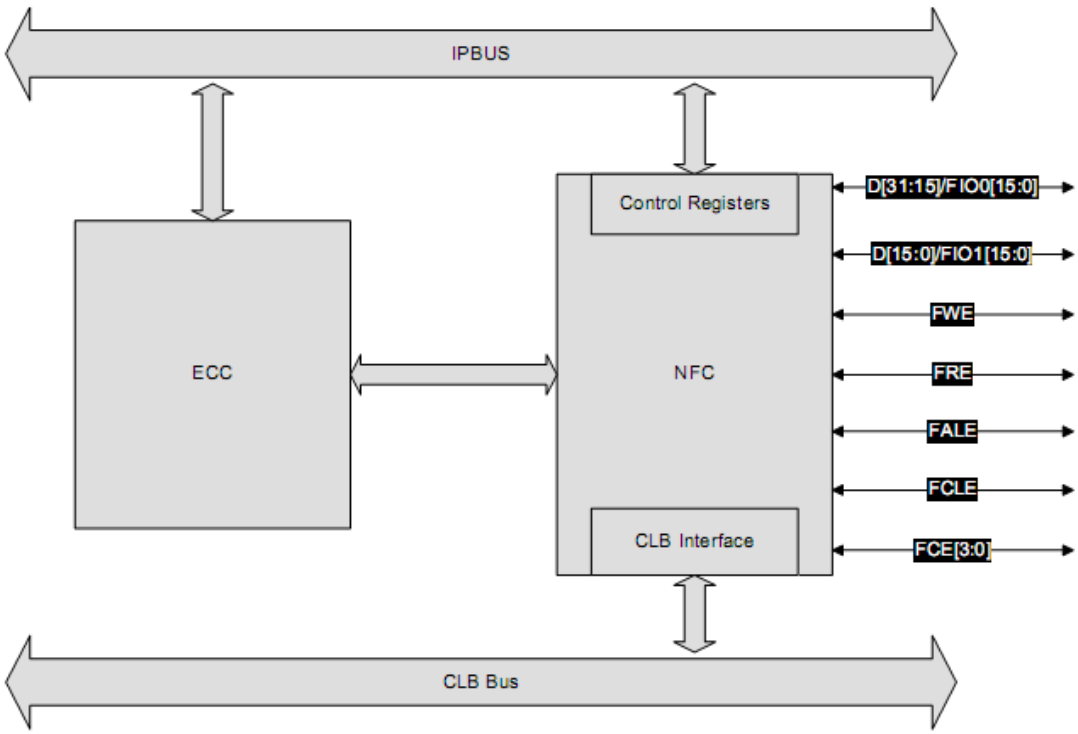
Summary

NFC

The Nand Flash Controller (NFC) is responsible for communicating with the external Flash chips, generating the required interface signals (with appropriate timing) and passing on bytes of data, commands and addresses between the internal bus master(C*Core or DMAC) and the external Flash chips. With the ECC interface, the transferring data can be monitored by the external ECC module. The NFC module can also be integrated into the EBI (External Bus Interface) module easily.

ECC

The ECC module provides an ECC engine which performs Reed Solomon Error Correction Encoding/Decoding 'on the fly' while data is being written to or read from the Nand-Flash ECC Data Channel.



NFC + ECC Block Diagram

Features

NFC

- No external glue logic required for typical systems
- Five NFC channel
  - Command Channel
  - Address Channel
  - Data Channel with ECC
  - Data Channel without ECC
  - Dummy Data Channel with ECC(No actual data transfer)
- Support for 8-bit 16-bit and 32-bit devices
- Programmable wait states
- Programmable FWE/FRE assertion and negation timing in steps of half system cycle.
- Gate Number : 4K

ECC

- Reed Solomon Algorithm
- On the fly Encoding/Decoding
- 10 bytes ECC codes(8 10-bits ECC symbols)
- Can correct up to 4 bytes data per page(518 data + 10bytes ECC)
- Deal with one byte in one or two system clock
- Gate Number : 14K
- Maximum Operating Frequency : 66MHz in one-cycle mode and 132MHz in two-cycle mode

*To obtain more information about the NFE or other C*Core™ products, please contact the C*Core Technology Co., Ltd. by phone: 0512-68091375, email: support@china-core.com or web: http://www.china-core.com.*

*C*Core™ is a trade mark of C*Core Co., Ltd.*