Embedded app of the day.

Oven Controller →

Value

\[ (-1)^S \times (1+F \times 2^{-23}) \times 2^{(E+127)} \]

Where

- \( S \): Sign (+ or -, meaning 0 or 1)
- \( E \): Exponent 8 bits
- \( F \): Mantissa 23 bit actual value

Range: 0 to \( 2^{24} - 1 \)
- 0 16,777,216

Range: 0 to \( 2^{23} - 1 \)
- 0 to 8,388,607

- \( 1111 \) = 15_{10}
- \( 1111.01 \) = 15.5_{10}
- \( 1111.001 \) = 15.25_{10}
- \( 1111.0001 \) = 15.125_{10}
- \( 0.001 \) = 0.125_{10}

- \( 0.001_2 = 1.000_2 \times 2^{-3} \)
- \( 1111.0001_2 = 1.111001_2 \times 2^{3} \)
0.001 \text{ (assumed to be one)} \times 2^{-3}

- \frac{1.000}{2} \times 2^{-3} = 1.0111100 \times 2^{-3}

15.125_{10} = 1.111100_{2} \times 2^{3}

- 64.625_{10} \rightarrow FP \text{ single precision IEEE 754 binary}

- 1.000000101_{2} \times 2^{6}

- 1.000000101_{2} \times 2^{6}

Assume to be 1
Clocks

External Bus Clock
BCLK → 100 MHz

SDRAM Clock
SDRA, SDCLK → 50 MHz

Serial Clock
AD Clock → Set this

Pipeline
Laundry
Sort
Washer
Dryer
Fold

Total Time = 6T

Sequential
Sort
Wash
dry
fold
Wash
dry
fold
Wash
dry
fold
Wash
dry
fold

T 2T 3T 4T 5T 6T
Switch (x) {
  Case 3: 
    break;
  Case 4: 
    break;
  Otherwise: 
    3
}

Put the case where is true the highest % at first.
### Figure 3.31 Memory map in each operating mode

Source: Hardware Manual, Figure 4.1, page 4–1.

#### Notes:
1. Reserved areas should not be accessed, since the correct operation of LSI is not guaranteed if they are accessed.
2. The address spaces in boot mode and user boot mode are the same as the address spaces in single-chip mode.
3. For details on the FPU, see section 37, ROM (Flash Memory for Code Storage) and section 38, Delta Flash (Flash Memory for Data Storage) in the Hardware Manual.