

7.1.1. Multiplier cycle counts

The number of cycles that a multiply instruction takes to complete depends on which instruction it is, and on the value of the multiplier-operand. The multiplier-operand is the contents of the register specified by bits [8:11] of the ARM multiply instructions, or bits [2:0] of the Thumb multiply instructions.

- For ARM MUL, MLA, SMULL, SMLAL, and Thumb MUL, m is:
 - 1 if bits [31:8] of the multiplier operand are all zero or one
 - 2 if bits [31:16] of the multiplier operand are all zero or one
 - 3 if bits [31:24] of the multiplier operand are all zero or all one
 - 4 otherwise.
- For ARM UMULL, UMLAL, m is:
 - 1 if bits [31:8] of the multiplier operand are all zero
 - 2 if bits [31:16] of the multiplier operand are all zero
 - 3 if bits [31:24] of the multiplier operand are all zero
 - 4 otherwise.