SUBWFB   Subtract W from f with Borrow

Syntax:	[*label*] SUBWFB f [,d [,a]
Operands:	$0 \leq f \leq 255$ $d \in [0,1]$ $a \in [0,1]$
Operation:	$(f) - (W) - (\overline{C}) \rightarrow dest$
Status Affected:	N, OV, C, DC, Z

Encoding:

0101	10da	ffff	ffff

Description: Subtract W and the carry flag (bor-row) from register 'f' (2's complement method). If 'd' is 0, the result is stored in W. If 'd' is 1, the result is stored back in register 'f' (default). If 'a' is 0, the Access Bank will be selected, overriding the BSR value. If 'a' is 1, then the bank will be selected as per the BSR value (default).

Words: 1

Cycles: 1

Q Cycle Activity:

Q1	Q2	Q3	Q4
Decode	Read register 'f'	Process Data	Write to destination

Example 1:   SUBWFB   REG, 1, 0

Before Instruction

REG	=	0x19	(0001 1001)
W	=	0x0D	(0000 1101)
C	=	1	

After Instruction

REG	=	0x0C	(0000 1011)
W	=	0x0D	(0000 1101)
C	=	1	
Z	=	0	
N	=	0	; result is positive

Example 2:   SUBWFB   REG, 0, 0

Example 2:   SUBWFB REG, 0, 0

Before Instruction
  REG = 0x1B (0001 1011)
  W   = 0x1A (0001 1010)
  C   = 0
After Instruction
  REG = 0x1B (0001 1011)
  W   = 0x00
  C   = 1
  Z   = 1   ; result is zero
  N   = 0

Example 3:   SUBWFB REG, 1, 0

Before Instruction
  REG = 0x03 (0000 0011)
  W   = 0x0E (0000 1101)
  C   = 1
After Instruction
  REG = 0xF5 (1111 0100)
           ; [2's comp]
  W   = 0x0E (0000 1101)
  C   = 0
  Z   = 0
  N   = 1   ; result is negative

< Previous instruction: SUBWF | Instruction index | Next instruction: SWAPF >