

OP	IS	EX	WE	CMT	Σ ϕ δ ϕ
LD F0, 0(R1)	1	2-5	6	7	miss ALOJ, fetch (ALOJ, ALJ)
ADD F4, F4, F0	1	7-9	10	L1	RAW (F0)
LD F1, 0(R1)	2	3-6	7	L1	miss BLOJ, fetch (BLOJ, BLJ)
MULD F4, F4, F1	2	L1-L5	L6	L1	RAW (F1, F4)
ANDI R9, R8, 0x2	3	4-5	8	L1	R9=0 CBP conflict
BNEZ R9, NEXT	3	9-10	11	L8	RAW (R9), prediction=T, res=NT
LD F5, 8(R1)	7	8	9	-	RS full, LD queue is full, hit F4, flush L1
ADD F4, F4, F5	7	-	-	-	flush L1, FU busy, RAW (F4, F5)
ADDI R1, R1, 0x8	8	9-10	-	-	flush L1 CBP conflict
SUDI R8, R8, 0x2	9	10-10	-	-	RS full flush L1
BNEZ R8, LOOP	-	-	-	-	ROB full RAW (R8) flush L1
LD F2, 16(R1)	L2	L3-L6	L7	L8	miss BLOJ, fetch (BLOJ, BLJ) drop (BLOJ, BLJ)
MULD F4, F4, F5	L2	L8-L9	23	24	RAW F4, FU busy
ADD F4, F4, F2	L3	24-26	27	28	RAW (F4, F2)
LD F5, 8(R1)	L3	L4	25	28	hit ALOJ
ADD	L4	28-30	31	32	FU busy RAW (F4, F5)
ADDI	L4	L3-L6	L8	32	CBP conflict
SUBI	L8	L9-20	21	33	ROB full R8=0
BNEZ	L8	22-23	24	33	RAW (R8) pred=T res=NT
LD	L9	20	22	-	hit ALOJ, CBP conflict, flush L1
ADD	19	-	-	-	RAW (F0, F4) FU busy flush L1
LD	-	-	-	-	ROB full flush L1
SD	25	32-35	36	37	RAW (F4) miss BLOJ drop (BLOJ, BLJ) fetch (BLOJ, BLJ)

Cache: (ALOJ, ALJ) L1 1 block
(ALOJ, BLOJ) 2nd 2 blocks