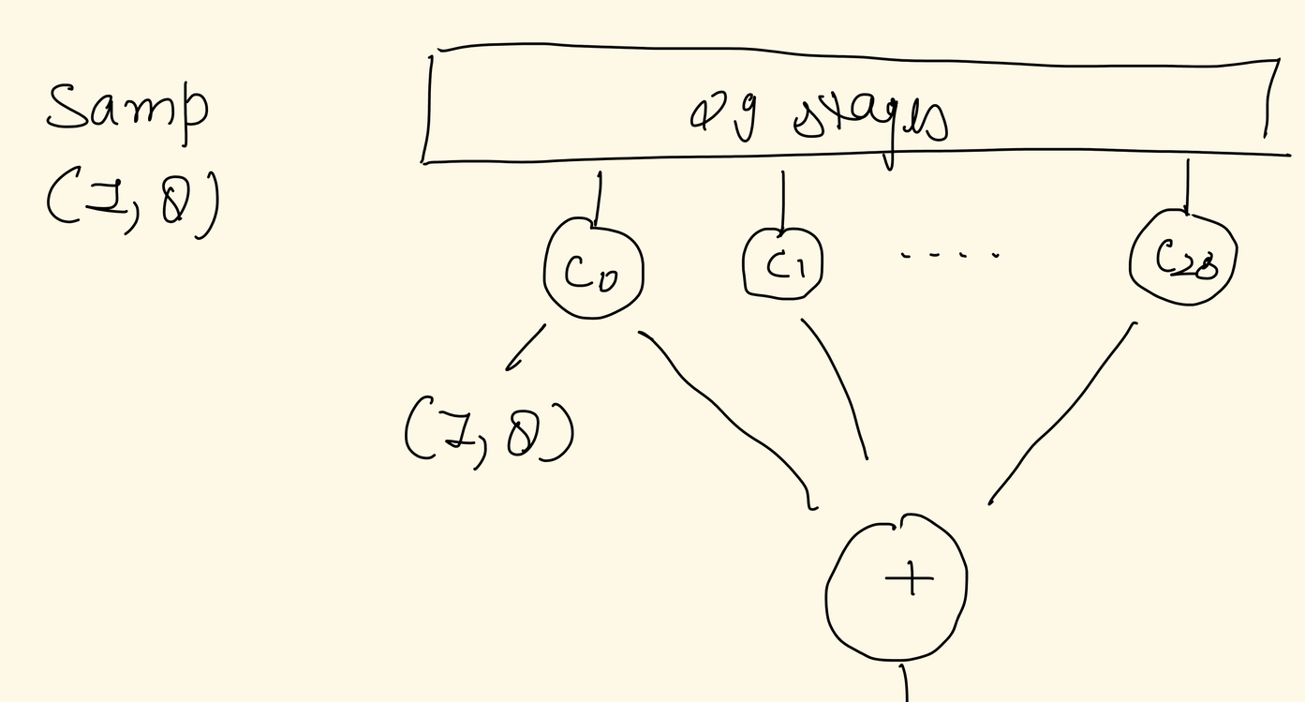
Project
3/22/23

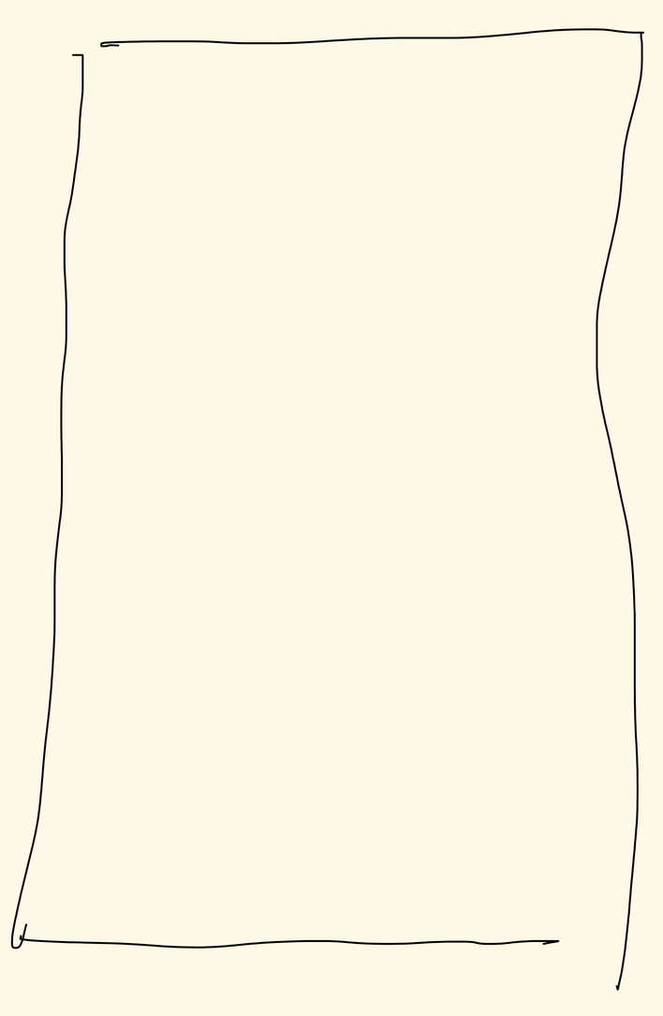
- 29 tap fir filter

complex multiply

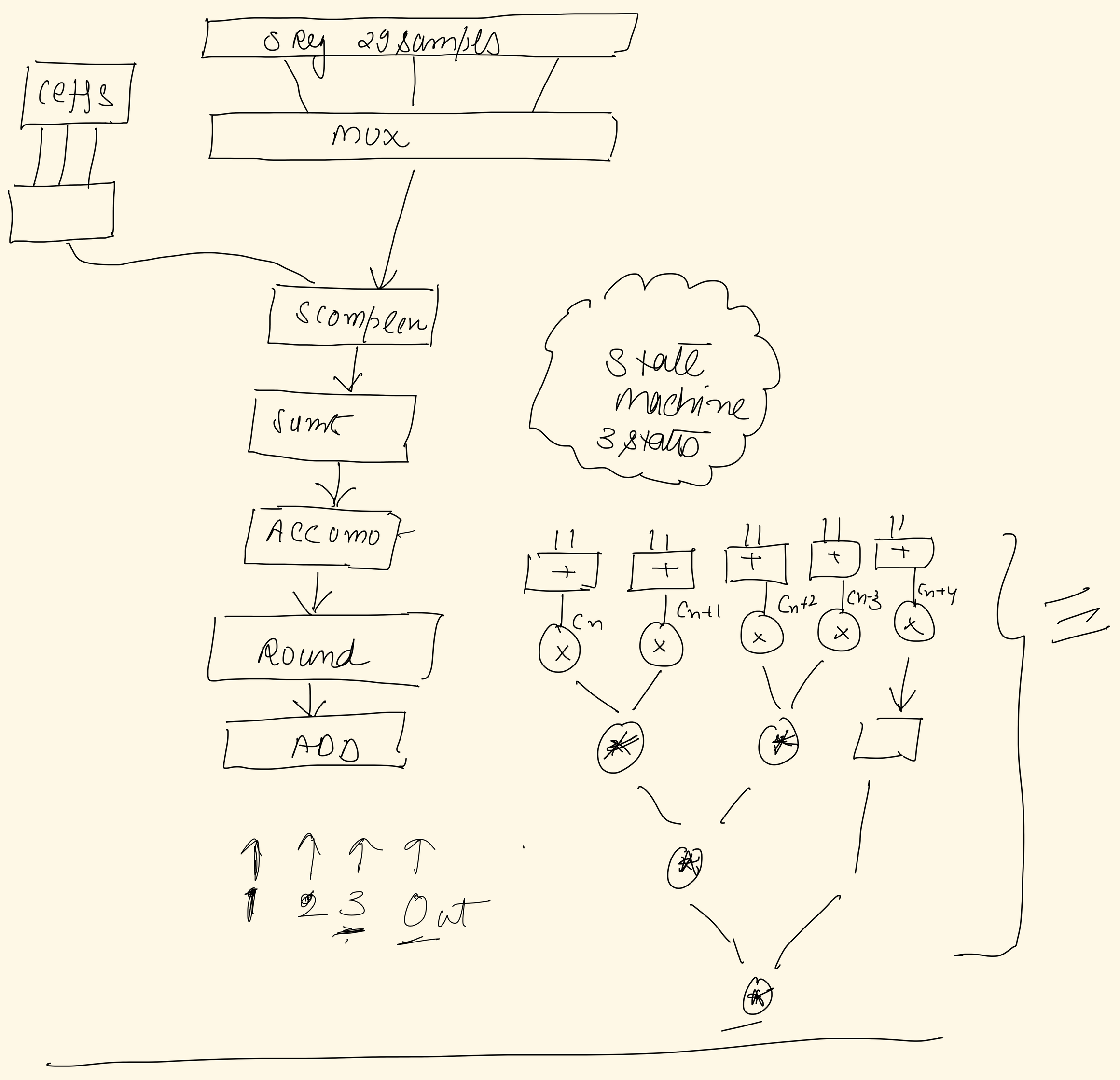


{0, 1, 2, 3 ..... 28}

- 300MHz / sample at every 8clk
- 5 complex multiplier — DW mult
- o/p fifo w/ stay quan model.
-



29 samples (48bits) = 1392
5 coeffs (54 bits) = 810
2202 fifo



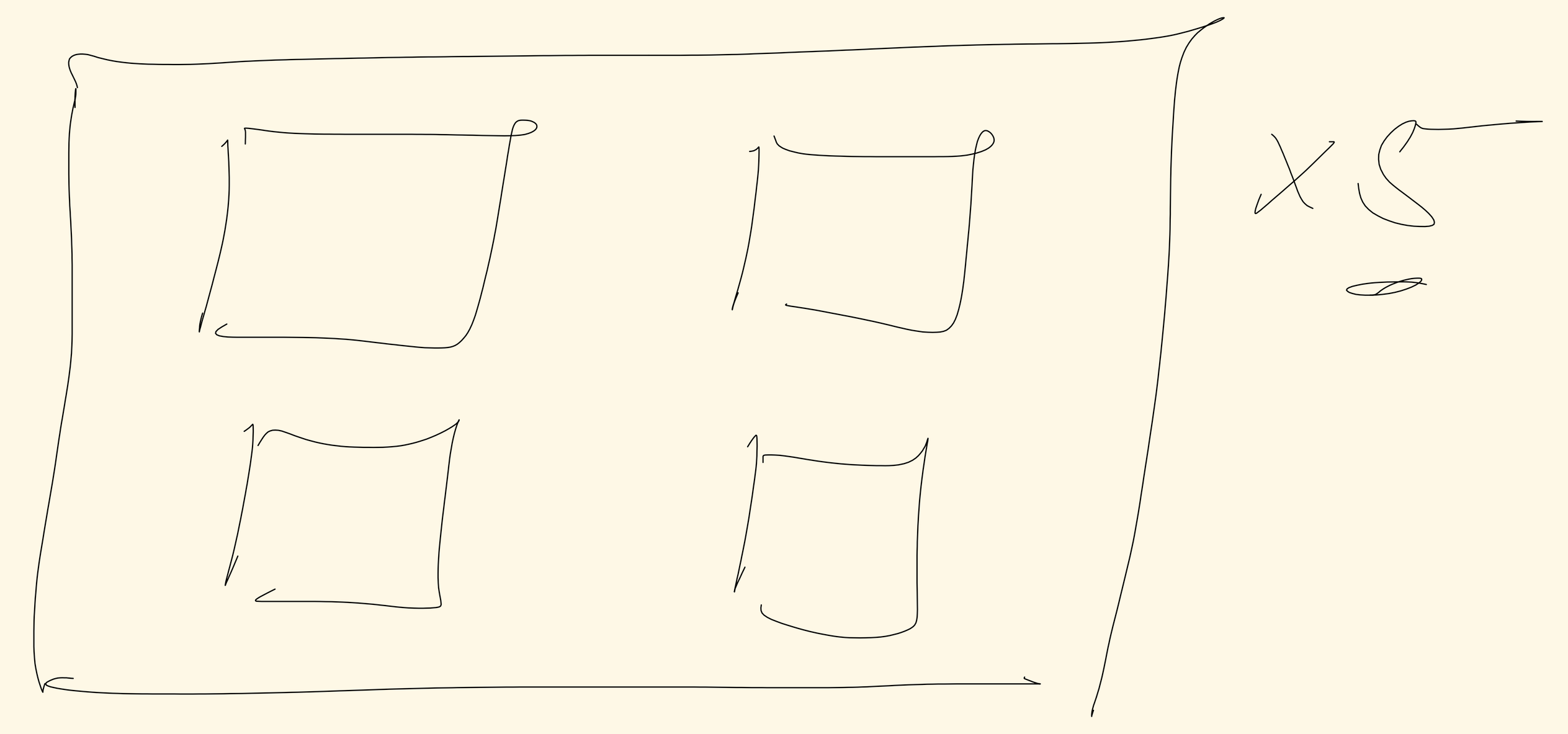
$(A_I + A_Q) \times (B_I + B_Q)$

$A_I B_I + A_I B_Q + A_Q B_I - A_Q B_Q$

$(A_I B_I - A_Q B_Q) + (A_I B_Q + A_Q B_I)$

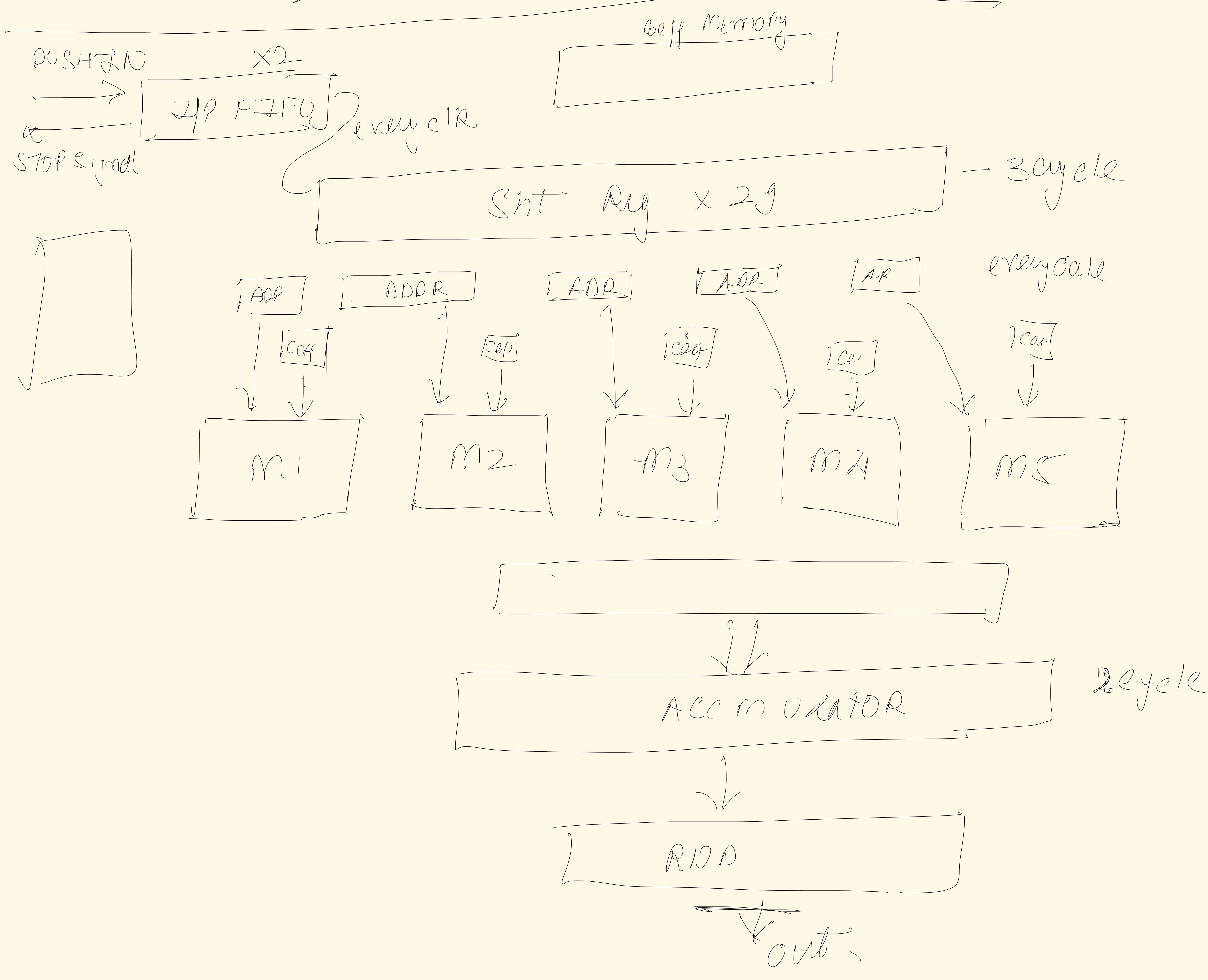
$(A + iB) * (C + iD)$

$AC + BC + AD + BC$



DW

- coeff and adder pre mult update every cycle
- coeff fetch at start of every Filter



1000