Complex Multiplication

ar   ai   br   bi   1

[ar-d] [ai-d]   [br-d] [bi-d]

[ar-dd]   [(ar-ai)] [ai-dd] [bi.d-dd]   [br-dd]   2

[ai-ddd]   [ai-ddd] [(ad-bd)] [bi-ddd]   [br-ddd]   3

[ar-dddd] [ai-dddd] [common] [(C+d)] [(c-d)]   4

[common1]   [ac-ad]   [b(c+d)] [common2]   5

ac-bd+ac-ad
Pr_int [ac-bd]   bc+bd+ad-bd
                             Pi_int [ad+bc]   6

Image 1 shows that the logic of multiply complex numbers takes 6 cycles, and image 2 proves that the logic does takes 6 cycles (posedge) to get output on pr_int and pi_int.