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PS C:\Users\chang\Desktop\代码\Alpha2> iverilog -o core_tb.vvp core_tb.v core.v corelet.v mac_array.v mac_row.v mac_tile
.v mac.v l0.v fifo.v sfu.v fifo_depth64.v fifo_mux_16_1.v fifo_mux_8_1.v fifo_mux_2_1.v sram_32b_w2048.v
PS C:\Users\chang\Desktop\代码\Alpha2> vvp core_tb.vvp
VCD info: dumpfile core_tb.vcd opened for output.

No.          0 execution completed.
No.          1 execution completed.
No.          2 execution completed.
No.          3 execution completed.
No.          4 execution completed.
No.          5 execution completed.
No.          6 execution completed.
No.          7 execution completed.
No.          8 execution completed.

===== PE Gating Statistics (kij=      8) =====
Sample PE[row1][col1] as representative:
  Execute cycles:      52
  Gated cycles:       30
  Gating ratio:      57%
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===== PE Gating Functional Verification =====
[PASS] Gating logic triggered (gated_cycles =      30 > 0)
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[PASS] Gating logic triggered (gated_cycles =      30 > 0)
=====

===== Gating Analysis =====

[Cycle Statistics]
  Total execute cycles:      52
  Normal compute cycles:    22  (gating_a & gating_b = 1)
  Gated cycles:             30  (gating_a & gating_b = 0)

[What happens during gated cycles]
  - Multiplier inputs: held at last valid value
  - Output: bypassed to c_q (skipping multiplier result)
  - Multiplier internal switching: reduced (not zero)

[Important Notes]
  - Gating ratio      57% means      57% of cycles were gated
  - This does NOT equal power reduction percentage!
  - Actual power savings require synthesis + power analysis
  - Tools needed: Design Compiler + PrimeTime PX / Innovus
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##### Verification Start during accumulation #####
1-th output featuremap Data matched! :D
2-th output featuremap Data matched! :D
3-th output featuremap Data matched! :D
4-th output featuremap Data matched! :D
5-th output featuremap Data matched! :D
6-th output featuremap Data matched! :D
7-th output featuremap Data matched! :D
8-th output featuremap Data matched! :D
9-th output featuremap Data matched! :D
10-th output featuremap Data matched! :D
11-th output featuremap Data matched! :D
12-th output featuremap Data matched! :D
13-th output featuremap Data matched! :D
14-th output featuremap Data matched! :D
15-th output featuremap Data matched! :D
16-th output featuremap Data matched! :D
##### No error detected #####
##### Project Completed !! #####
core_tb.v:473: $finish called at 2331000 (1ps)
```