| Type | Name | rpi4b Total | rpi4b Distribution | qemu Total | qemu Distribution | rpi3bp Total | rpi3bp Distribution | graviton2 Total | graviton2 Distribution |
|---|---|---|---|---|---|---|---|---|---|
| amo | AArch64 | 0/0 | | 0/0 | | 0/0 | | 0/0 | |
| checks | check1 | 0/500K | | 0/0 | | 0/500K | | 0/26.50M | |
| checks | check2 | 0/500K | | 0/0 | | 0/500K | | 0/26.50M | |
| checks | check3 | 0/6M | | 0/0 | | 0/500K | | 0/33.50M | |
| checks | check4 | 0/6M | | 0/0 | | 0/500K | | 0/33.50M | |
| checks | check5 | 0/6M | | 0/0 | | 0/500K | | 0/33.50M | |
| checks | check6 | 0/5.50M | | 0/0 | | 0/500K | | 0/33.50M | |
| data | LB+pos | 0/5M | | 0/0 | | 0/500K | | 0/40M | |
| data | MP+dmb+po | 0/0 | | 0/0 | | 0/0 | | 0/0 | |
| data | MP+dmbs | 0/5M | | 0/3.50M | | 0/500K | | 0/39.50M | |
| data | MP+po+dmb | 0/0 | | 0/0 | | 0/0 | | 0/0 | |
| data | MP+po-data+dmb | 4.99K/4M | 623.38/500K ± 189.09/500K | 0/0 | | 1.23K/500K | 1.23K/500K ± 0.00/500K | 431.10K/36M | 5.99K/500K ± 2.36K/500K |
| data | MP+pos | 514.11K/5M | 51.41K/500K ± 5.20K/500K | 0/3.50M | | 2.17K/500K | 2.17K/500K ± 0.00/500K | 4.12M/39.50M | 52.13K/500K ± 8.85K/500K |
| data | MP+rfi-data+dmb | 2.75K/2M | 687.00/500K ± 294.54/500K | 0/0 | | 7.31K/500K | 7.31K/500K ± 0.00/500K | 284.40K/19.50M | 7.29K/500K ± 2.70K/500K |
| data | SB+dmbs | 0/5M | | 0/3.50M | | 0/500K | | 0/39.50M | |
| data | SB+pos | 890.96K/5M | 89.10K/500K ± 10.98K/500K | 0/3.50M | | 67.40K/500K | 67.40K/500K ± 0.00/500K | 5.10M/39.50M | 64.53K/500K ± 18.46K/500K |
| data | WRC+addrs | 0/4.50M | | 0/3.50M | | 0/500K | | 0/39.50M | |
| data | WRC+pos | 40.77K/4.50M | 4.53K/500K ± 1.01K/500K | 0/3.50M | | 2/500K | 2.00/500K ± 0.00/500K | 44.26K/39.50M | 560.25/500K ± 508.94/500K |
| exc | LB+R-svc-W+R-svc-W | 0/4.50M | | 0/0 | | 0/500K | | 0/33.50M | |
| exc | MP+W-svc-W+addr | 0/4.50M | | 0/0 | | 33/500K | 33.00/500K ± 0.00/500K | 2/33.50M | 0.03/500K ± 0.17/500K |
| exc | MP+dmb+R-svc-eret-R | 0/4.50M | | 0/0 | | 0/500K | | 0/33.50M | |
| exc | MP+dmb+eret | 0/5M | | 0/6.50M | | 0/500K | | 0/33.50M | |
| exc | MP+dmb+svc | 0/5M | | 0/6.50M | | 0/500K | | 0/33.50M | |
| exc | MP+dmb+svc-R-eret-svc-R | 0/5M | | 0/0 | | 0/500K | | 0/33.50M | |
| exc | MP+dmb+svc-R-svc-R | 0/5M | | 0/0 | | 0/500K | | 0/33M | |
| exc | MP+dmb+svc-R-svc-eret-R | 0/5M | | 0/0 | | 0/500K | | 0/33M | |
| exc | MP+dmb+svc2-R-eret-R | 0/5M | | 0/0 | | 0/500K | | 0/33M | |
| exc | MP+svc-W-eret-W+addr | 0/5M | | 0/0 | | 3/500K | 3.00/500K ± 0.00/500K | 121/33M | 1.83/500K ± 2.11/500K |
| exc | SB+W-svc-R+W-svc-R | 0/5M | | 0/0 | | 4.88K/500K | 4.88K/500K ± 0.00/500K | 723/33M | 10.95/500K ± 5.83/500K |
| exc | SB+svc-erets | 34/5M | 3.40/500K ± 4.43/500K | 0/0 | | 5.37K/500K | 5.37K/500K ± 0.00/500K | 238/33M | 3.61/500K ± 3.91/500K |
| pgtable | CoRT | 588.89K/5M | 58.89K/500K ± 13.19K/500K | 0/0 | | 114.28K/500K | 114.28K/500K ± 0.00/500K | 1.88M/33M | 28.45K/500K ± 10.72K/500K |
| pgtable | CoRT+dsb-isb | 557.87K/5M | 55.79K/500K ± 9.75K/500K | 0/0 | | 64.59K/500K | 64.59K/500K ± 0.00/500K | 3.07M/33M | 46.58K/500K ± 41.70K/500K |
| pgtable | CoTR | 1.46M/5M | 145.94K/500K ± 21.67K/500K | 2/3.50M | 0.29/500K ± 0.45/500K | 0/500K | | 7.34M/32.50M | 112.98K/500K ± 18.19K/500K |
| pgtable | CoTR+addr | 0/5M | | 2/3M | 0.33/500K ± 0.47/500K | 1/500K | 1.00/500K ± 0.00/500K | 0/32.50M | |
| pgtable | CoTR+dmb | 1/5M | 0.10/500K ± 0.30/500K | 5/3M | 0.83/500K ± 0.69/500K | 0/500K | | 4/32.50M | 0.06/500K ± 0.24/500K |
| pgtable | CoTR+dsb | 2/5M | 0.20/500K ± 0.40/500K | 1/3M | 0.17/500K ± 0.37/500K | 0/500K | | 5/32.50M | 0.08/500K ± 0.27/500K |
| pgtable | CoTR+dsb-isb | 1/5M | 0.10/500K ± 0.30/500K | 2/3M | 0.33/500K ± 0.47/500K | 0/500K | | 1/32.50M | 0.02/500K ± 0.12/500K |
| pgtable | CoTR.inv | 2.67M/5M | 266.74K/500K ± 65.29K/500K | 0/3.50M | | 0/500K | | 26.59M/32.50M | 409.09K/500K ± 77.47K/500K |
| pgtable | CoTR.inv+dsb-isb | 0/5M | | 0/3.50M | | 0/500K | | 0/32.50M | |
| pgtable | CoTR1+dsb-dc-dsb-tlbi-dsb-isb | 2/5M | 0.20/500K ± 0.40/500K | 0/0 | | 0/500K | | 4/32.50M | 0.06/500K ± 0.24/500K |
| pgtable | CoTR1+dsb-tlbi-dsb-isb | 2/5M | 0.20/500K ± 0.40/500K | 0/0 | | 0/500K | | 3/32.50M | 0.05/500K ± 0.21/500K |
| pgtable | CoTR1.tlbi+dsb-isb | 6/5M | 0.60/500K ± 1.02/500K | 7/3M | 1.17/500K ± 0.69/500K | 1/500K | 1.00/500K ± 0.00/500K | 29/32.50M | 0.45/500K ± 0.63/500K |
| pgtable | CoTT | 0/5M | | 0/0 | | 0/500K | | 0/32.50M | |
| pgtable | CoWT | 2.81M/5M | 280.69K/500K ± 10.73K/500K | 0/3.50M | | 369.12K/500K | 369.12K/500K ± 0.00/500K | 16.30M/32.50M | 250.71K/500K ± 1.74K/500K |
| pgtable | CoWT+dsb | 2.79M/5M | 279.32K/500K ± 9.16K/500K | 0/3.50M | | 248.71K/500K | 248.71K/500K ± 0.00/500K | 16.24M/32.50M | 249.83K/500K ± 409.71/500K |
| pgtable | CoWT+dsb-isb | 2.81M/5M | 280.77K/500K ± 7.54K/500K | 0/3.50M | | 249.23K/500K | 249.23K/500K ± 0.00/500K | 16.24M/32.50M | 249.84K/500K ± 397.95/500K |
| pgtable | CoWT+dsb-svc-tlbi-dsb | 0/5M | | 0/3.50M | | 0/500K | | 0/32M | |
| pgtable | CoWT.inv | 6/5M | 0.60/500K ± 1.20/500K | 0/3.50M | | 305.08K/500K | 305.08K/500K ± 0.00/500K | 22/32M | 0.34/500K ± 0.67/500K |
| pgtable | CoWT.inv+dmb | 5/5M | 0.50/500K ± 0.67/500K | 0/3.50M | | 45.59K/500K | 45.59K/500K ± 0.00/500K | 15/32M | 0.23/500K ± 0.49/500K |
| pgtable | CoWT.inv+dsb | 1/5M | 0.10/500K ± 0.30/500K | 0/3.50M | | 0/500K | | 22/31.50M | 0.35/500K ± 0.67/500K |
| pgtable | CoWT.inv+dsb-isb | 0/5M | | 0/3M | | 0/500K | | 0/31.50M | |
| pgtable | CoWT1+dsb-tlbi-dsb | 0/5M | | 0/3.50M | | 0/500K | | 0/32M | |
| pgtable | CoWT1+dsb-tlbi-dsb-isb | 0/5M | | 0/0 | | 0/500K | | 0/32M | |
| pgtable | CoWinvT | 2.67M/5M | 266.85K/500K ± 8.75K/500K | 0/3.50M | | 293.49K/500K | 293.49K/500K ± 0.00/500K | 16.32M/31.50M | 259.08K/500K ± 17.15K/500K |
| pgtable | CoWinvT+dsb-isb | 2.69M/5M | 268.66K/500K ± 11.77K/500K | 0/0 | | 336.81K/500K | 336.81K/500K ± 0.00/500K | 16.31M/31.50M | 258.94K/500K ± 17.86K/500K |
| pgtable | CoWinvT1+dsb-tlbi-dsb | 0/5M | | 0/3.50M | | 0/500K | | 0/31.50M | |
| pgtable | CoWinvWT1+dsb-tlbi-dsb-isb | 0/5M | | 0/0 | | 0/500K | | 0/31.50M | |
| pgtable | ISA2.TRR+dmb+po+dmb | 0/5M | | 0/3M | | 0/500K | | 0/31.50M | |
| pgtable | MP.BBM1+[dmb.ld]-dsb-tlbiis-dsb-isb-dsb-isb+dsb-isb | 0/107M | | 0/0 | | 0/0 | | 0/427M | |
| pgtable | MP.BBM1+[dmb.ld]-tlbiis-dsb-isb-dsb-isb+dsb-isb | 0/197M | | 0/0 | | 0/1.06G | | 0/119M | |
| pgtable | MP.BBM1+[po]-dsb-tlbiis-dsb-isb-dsb-isb+dsb-isb | 0/107M | | 0/0 | | 0/0 | | 0/135M | |
| pgtable | MP.BBM1+dsb-isb-tlbiis-dsb-isb-dsb-isb+dsb-isb | 0/5M | | 0/0 | | 0/500K | | 52/125M | 0.21/500K ± 0.44/500K |
| pgtable | MP.BBM1+dsb-tlbiis-dsb-dsb+dsb | 1/5M | 0.10/500K ± 0.30/500K | 0/0 | | 0/500K | | 7/32M | 0.11/500K ± 0.36/500K |
| pgtable | MP.BBM1+dsb-tlbiis-dsb-dsb+dsb-isb | 0/5M | | 0/0 | | 0/500K | | 2/32M | 0.03/500K ± 0.17/500K |
| pgtable | MP.BBM1+dsb-tlbiis-dsb-dsb-isb+dsb | 1/5M | 0.10/500K ± 0.30/500K | 0/0 | | 0/500K | | 0/32M | |
| pgtable | MP.BBM1+dsb-tlbiis-dsb-dsb-isb+dsb-isb | 2/5M | 0.20/500K ± 0.40/500K | 0/0 | | 0/500K | | 3/32M | 0.05/500K ± 0.28/500K |
| pgtable | MP.BBM1+po-dsb-tlbiis-dsb-isb-dsb-isb+dsb-isb | 0/0 | | 0/0 | | 0/0 | | 9/181M | 0.02/500K ± 0.16/500K |
| pgtable | MP.BBM1.id+dsb-tlbiis-dsb-dsb+dsb-isb | 9/5M | 0.90/500K ± 0.30/500K | 0/0 | | 0/500K | | 66/32M | 1.03/500K ± 0.17/500K |
| pgtable | MP.RT+svc-dsb-tlbi-dsb+dsb-isb | 1/5M | 0.10/500K ± 0.30/500K | 0/3M | | 0/500K | | 3/31.50M | 0.05/500K ± 0.21/500K |
| pgtable | MP.RT+svc-dsb-tlbiis-dsb+dsb-isb | 1/5M | 0.10/500K ± 0.30/500K | 0/3.50M | | 0/500K | | 3/31.50M | 0.05/500K ± 0.21/500K |
| pgtable | MP.RT.inv+dmb+addr | 0/5M | | 0/3M | | 0/500K | | 0/31.50M | |
| pgtable | MP.RT.inv+dmb+po | 0/5M | | 0/0 | | 0/500K | | 0/31.50M | |
| pgtable | MP.RT1+[dmb.ld]-dmb+dsb-isb | 7.14K/5M | 714.50/500K ± 129.06/500K | 0/0 | | 986/500K | 986.00/500K ± 0.00/500K | 1.26K/31.50M | 19.98/500K ± 35.96/500K |
| pgtable | MP.RT1+[dmb.ld]-dsb-isb-tlbiis-dsb-isb+dmb | 0/0 | | 0/0 | | 0/0 | | 0/12.50M | |
| pgtable | MP.RT1+[dmb.ld]-dsb-isb-tlbiis-dsb-isb+dsb-isb | 0/0 | | 0/0 | | 0/0 | | 0/12.50M | |
| pgtable | MP.RT1+[dmb.ld]-dsb-tlbiis-dsb-isb+dmb | 0/5M | | 0/0 | | 0/500K | | 0/31.50M | |
| pgtable | MP.RT1+dc-dsb-tlbiall-dsb+dsb-isb | 4/5M | 0.40/500K ± 0.49/500K | 0/2.50M | | 1/500K | 1.00/500K ± 0.00/500K | 5/31.50M | 0.08/500K ± 0.27/500K |
| pgtable | MP.RT1+dc-dsb-tlbiall-dsb-isb+dsb-isb | 3/5M | 0.30/500K ± 0.46/500K | 0/0 | | 0/500K | | 2/31.50M | 0.03/500K ± 0.18/500K |
| pgtable | MP.RT1+dsb-isb-tlbiis-dsb-isb+dsb-isb | 0/5M | | 0/0 | | 0/500K | | 4/31M | 0.06/500K ± 0.25/500K |
| pgtable | MP.RT1+dsb-tlbi-dsb+dsb-isb | 0/5M | | 0/3M | | 0/500K | | 2/31M | 0.03/500K ± 0.18/500K |
| pgtable | MP.RT1+dsb-tlbiall-dsb+dsb-isb | 5/5M | 0.50/500K ± 0.50/500K | 0/3.50M | | 0/500K | | 6/31M | 0.10/500K ± 0.30/500K |
| pgtable | MP.RT1+dsb-tlbiallis-dsb+dsb-isb | 3/5M | 0.30/500K ± 0.64/500K | 0/0 | | 0/500K | | 2/31M | 0.03/500K ± 0.18/500K |
| pgtable | MP.RT1+dsb-tlbiis-dsb+dsb-isb | 1/5M | 0.10/500K ± 0.30/500K | 0/3.50M | | 0/500K | | 1/31M | 0.02/500K ± 0.13/500K |
| pgtable | MP.RT1+dsb-tlbiis-dsb-isb+dmb | 0/5M | | 0/0 | | 0/500K | | 1/31M | 0.02/500K ± 0.13/500K |
| pgtable | MP.RT1+dsb-tlbiis-dsb-isb+dsb-isb | 0/5M | | 0/0 | | 0/500K | | 1/31M | 0.02/500K ± 0.13/500K |
| pgtable | MP.RT1+dsb-tlbiis-dsb-tlbiis-dsb+dsb-isb | 0/5M | | 0/3.50M | | 0/500K | | 3/31M | 0.05/500K ± 0.21/500K |
| pgtable | MP.TT+Winv-dmb-Winv+tpo | 193.79K/5M | 19.38K/500K ± 7.02K/500K | 0/0 | | 57.63K/500K | 57.63K/500K ± 0.00/500K | 67.38K/31M | 1.09K/500K ± 926.88/500K |
| pgtable | MP.TT+dmb+dsb-isb | 529.09K/4.50M | 58.79K/500K ± 12.70K/500K | 0/0 | | 59.96K/500K | 59.96K/500K ± 0.00/500K | 398.74K/31M | 6.43K/500K ± 7.43K/500K |
| pgtable | MP.TT+dmb+tpo | 709.98K/4.50M | 78.89K/500K ± 12.86K/500K | 0/0 | | 58.59K/500K | 58.59K/500K ± 0.00/500K | 386.32K/31M | 6.23K/500K ± 5.93K/500K |
| pgtable | MP.TT.inv+dmb+dsb-isb | 0/4.50M | | 0/0 | | 0/500K | | 0/31M | |
| pgtable | MP.TT.inv+dmb+tpo | 0/4.50M | | 0/0 | | 0/500K | | 0/31M | |
| pgtable | MP.invRT+dsb+dsb-isb | 570.59K/4M | 71.32K/500K ± 11.52K/500K | 0/0 | | 20.27K/500K | 20.27K/500K ± 0.00/500K | 705.96K/30.50M | 11.57K/500K ± 5.91K/500K |
| pgtable | MP.invRT1+dsb-isb-tlbiis-dsb-isb+dsb-isb | 0/4.50M | | 0/0 | | 0/500K | | 1/31M | 0.02/500K ± 0.13/500K |
| pgtable | MP.invRT1+dsb-tlbiis-dsb+dsb | 0/4M | | 0/0 | | 0/500K | | 2/31M | 0.03/500K ± 0.18/500K |
| pgtable | MP.invRT1+dsb-tlbiis-dsb-isb+dsb-isb | 1/3.50M | 0.14/500K ± 0.35/500K | 0/0 | | 0/500K | | 1/31M | 0.02/500K ± 0.13/500K |
| pgtable | WRC.AT+ctrl+dsb | 107.79K/3.50M | 15.40K/500K ± 2.85K/500K | 0/3.50M | | 19.30K/500K | 19.30K/500K ± 0.00/500K | 183.32K/30.50M | 3.01K/500K ± 3.13K/500K |
| pgtable | WRC.TRR+addr+dmb | 0/3.50M | | 0/3M | | 0/500K | | 0/30.50M | |
| pgtable | WRC.TRR.inv+addrs | 0/3.50M | | 0/3M | | 0/500K | | 0/30.50M | |
| pgtable | WRC.TRT+addr+dmb | 29.28K/3.50M | 4.18K/500K ± 970.04/500K | 0/3M | | 17.92K/500K | 17.92K/500K ± 0.00/500K | 57.00K/30.50M | 934.38/500K ± 416.32/500K |
| pgtable | WRC.TRT+dmbs | 26.13K/3.50M | 3.73K/500K ± 1.47K/500K | 0/3M | | 22.64K/500K | 22.64K/500K ± 0.00/500K | 74.68K/30.50M | 1.22K/500K ± 444.60/500K |
| pgtable | WRC.TRT+dsb-isbs | 14.43K/3.50M | 2.06K/500K ± 994.53/500K | 0/3M | | 11.79K/500K | 11.79K/500K ± 0.00/500K | 72.31K/30.50M | 1.19K/500K ± 435.00/500K |
| pgtable | WRC.TRT.inv+addrs | 0/3M | | 0/0 | | 0/500K | | 0/29.50M | |
| pgtable | WRC.TRT.inv+dsb-isbs | 0/3M | | 0/3M | | 0/0 | | 0/29M | |
| pgtable | WRC.TRT.inv+po+addr | 0/3M | | 0/3M | | 0/0 | | 0/28.50M | |
| pgtable | WRC.TRT.inv+po+dmb | 0/3M | | 0/3M | | 0/0 | | 0/28M | |
| pgtable | WRC.TRT1+dsb-tlbiis-dsb+dmb | 0/3.50M | | 0/3M | | 0/0 | | 0/29M | |
| pgtable | WRC.TRT1+dsb-tlbiis-dsb-dsb-isb | 0/3.50M | | 0/3M | | 0/0 | | 0/29M | |
| aliasing | CoWR.alias | 0/6M | | 0/0 | | 0/1.50M | | 0/36M | |
| aliasing | MP+dmb-data+dmb | 0/5M | | 0/0 | | 0/1.50M | | 0/36M | |
| aliasing | MP.alias+dmbs | 0/5M | | 0/0 | | 0/1.50M | | 0/36M | |
| aliasing | MP.alias2+dmb-data+dmb | 0/5M | | 0/0 | | 0/1.50M | | 0/36M | |
| aliasing | MP.alias2+dmbs | 0/3M | | 0/0 | | 0/1.50M | | 0/19.50M | |
| aliasing | MP.alias2+po-data+dmb | 2.23K/5M | 222.60/500K ± 44.19/500K | 0/0 | | 3.17K/1.50M | 1.06K/500K ± 107.89/500K | 407.36K/36M | 5.66K/500K ± 1.83K/500K |
| aliasing | MP.alias3+rfi-data+dmb | 51/3M | 8.50/500K ± 2.36/500K | 0/0 | | 16/1.50M | 5.33/500K ± 2.05/500K | 36.35K/19.50M | 932.18/500K ± 337.68/500K |
| aliasing | SB.alias+dmbs | 0/5M | | 0/1M | | 0/1M | | 0/35.50M | |
| aliasing | WRC.alias2+addrs | 0/4M | | 0/0 | | 0/43M | | 0/19M | |
| aliasing | WRC.alias2+dmbs | 0/4M | | 0/0 | | 0/43M | | 0/18.50M | |
| timing | MP.times+pos | 0/0 | | 0/0 | | 0/0 | | 0/0 | |