

CPU Performance Analysis Report 4.2.1

Measured time	Sat Jul 9 20:47:09 2022
Node name	k28-5009c

Process no.	0
CMG no.	0
Measured region	axhelm_kernel, 1

Vector length (bit)	512
CPU frequency (GHz)	1.999

Statistics		Execution time (s)	GFLOPS	Floating-point operation peak ratio (%)	Memory throughput (GB/s)	Memory throughput peak ratio (%)	Effective instruction	Floating-point operation	SIMD instruction rate (%) (/Effective instruction)	SVE operation rate (%)	Floating-point pipeline Active element rate (%)	IPC	GIPS
Process	Thread												
0	0	7.98E-02	10.98	17.17%	8.35		3.20E+08	8.77E+08	48.40%	100.00%	95.54%	2.01	4.02
0	1	7.98E-02	10.98	17.17%	8.14		3.20E+08	8.77E+08	48.40%	100.00%	95.55%	2.01	4.02
0	2	7.98E-02	10.98	17.17%	8.10		3.20E+08	8.77E+08	48.40%	100.00%	95.55%	2.01	4.02
0	3	7.98E-02	10.98	17.17%	8.21		3.20E+08	8.77E+08	48.40%	100.00%	95.55%	2.01	4.02
0	4	7.98E-02	10.99	17.18%	8.34		3.20E+08	8.77E+08	48.40%	100.00%	95.55%	2.01	4.02
0	5	7.98E-02	10.98	17.17%	8.16		3.20E+08	8.77E+08	48.40%	100.00%	95.55%	2.01	4.02
0	6	7.98E-02	10.99	17.18%	8.19		3.20E+08	8.77E+08	48.40%	100.00%	95.55%	2.01	4.02
0	7	7.98E-02	10.99	17.18%	8.19		3.20E+08	8.77E+08	48.40%	100.00%	95.55%	2.01	4.02
0	8	7.97E-02	10.99	17.18%	8.16		3.20E+08	8.77E+08	48.40%	100.00%	95.55%	2.01	4.02
0	9	7.98E-02	10.98	17.17%	8.22		3.20E+08	8.77E+08	48.40%	100.00%	95.55%	2.01	4.02
0	10	7.98E-02	10.99	17.18%	8.36		3.20E+08	8.77E+08	48.40%	100.00%	95.55%	2.01	4.02
0	11	7.98E-02	10.98	17.17%	8.17		3.20E+08	8.77E+08	48.40%	100.00%	95.55%	2.01	4.02
CMG 0 total		7.98E-02	131.85	17.17%	98.57	38.50%	3.84E+09	1.05E+10	48.40%	100.00%	95.55%	2.01	48.20

Busy		Floating-point operation pipeline A busy rate (%)	Floating-point operation pipeline B busy rate (%)	Integer operation pipeline A busy rate (%)	Integer operation pipeline B busy rate (%)	L1 busy rate (%)	L2 busy rate (%)	Memory busy rate (%)	Address calculation operation pipeline A busy rate (%)	Address calculation operation pipeline B busy rate (%)	Floating-point pipeline A Active element rate (%)	Floating-point pipeline B Active element rate (%)	L1 pipeline 0 Active element rate (%)	L1 pipeline 1 Active element rate (%)	SFI(Store Fetch Interlock) rate
Process	Thread														
0	0	47.38%	24.57%	27.46%	36.68%	38.55%			40.25%	40.69%	93.22%	100.00%	100.00%	100.00%	0.00
0	1	47.42%	24.58%	27.62%	36.72%	38.42%			40.23%	40.61%	93.23%	100.00%	100.00%	100.00%	0.00
0	2	47.42%	24.57%	27.64%	36.73%	38.42%			40.21%	40.61%	93.24%	100.00%	100.00%	100.00%	0.00
0	3	47.43%	24.57%	27.60%	36.79%	38.43%			40.22%	40.62%	93.24%	100.00%	100.00%	100.00%	0.00
0	4	47.42%	24.57%	27.61%	36.77%	38.44%			40.16%	40.61%	93.24%	100.00%	100.00%	100.00%	0.00
0	5	47.42%	24.57%	27.63%	36.78%	38.44%			40.17%	40.61%	93.24%	100.00%	100.00%	100.00%	0.00
0	6	47.42%	24.56%	27.63%	36.83%	38.45%			40.13%	40.59%	93.23%	100.00%	100.00%	100.00%	0.00
0	7	47.45%	24.56%	27.63%	36.83%	38.47%			40.12%	40.62%	93.24%	100.00%	100.00%	100.00%	0.00
0	8	47.44%	24.55%	27.61%	36.82%	38.46%			40.11%	40.61%	93.24%	100.00%	100.00%	100.00%	0.00
0	9	47.45%	24.56%	27.64%	36.87%	38.47%			40.12%	40.59%	93.24%	100.00%	100.00%	100.00%	0.00
0	10	47.45%	24.56%	27.66%	36.86%	38.48%			40.14%	40.60%	93.24%	100.00%	100.00%	100.00%	0.00
0	11	47.46%	24.57%	27.59%	36.84%	38.48%			40.11%	40.61%	93.24%	100.00%	100.00%	100.00%	0.00
CMG 0 total		47.43%	24.57%	27.61%	36.79%	38.46%	33.31%	38.50%	40.16%	40.61%	93.24%	100.00%	100.00%	100.00%	0.00

Cache		L1L1 miss rate (/Effective instruction)	Load-store instruction	L1D miss	L1D miss rate (/Load-store instruction)	L1D miss demand rate (%) (/L1D miss)	L1D miss hardware prefetch rate (%) (/L1D miss)	L1D miss software prefetch rate (%) (/L1D miss)	L2 miss	L2 miss rate (/Load-store instruction)	L2 miss demand rate (%) (/L2 miss)	L2 miss hardware prefetch rate (%) (/L2 miss)	L2 miss software prefetch rate (%) (/L2 miss)	L1D TLB miss rate (/Load-store instruction)	L2D TLB miss rate (/Load-store instruction)
Process	Thread														
0	0	0.00	9.47E+07	2.38E+06	0.03	29.45%	70.55%	0.00%	2.32E+06	0.02	15.40%	87.18%	0.00%	0.00000	0.00000
0	1	0.00	9.47E+07	2.35E+06	0.02	29.22%	70.77%	0.01%	2.30E+06	0.02	15.04%	87.67%	0.00%	0.00000	0.00000
0	2	0.00	9.47E+07	2.35E+06	0.02	29.20%	70.79%	0.01%	2.30E+06	0.02	14.87%	87.65%	0.00%	0.00000	0.00000
0	3	0.00	9.47E+07	2.35E+06	0.02	29.13%	70.83%	0.04%	2.30E+06	0.02	14.98%	87.44%	0.00%	0.00000	0.00000
0	4	0.00	9.47E+07	2.35E+06	0.02	29.17%	70.81%	0.02%	2.30E+06	0.02	14.67%	87.70%	0.00%	0.00000	0.00000
0	5	0.00	9.47E+07	2.35E+06	0.02	29.20%	70.79%	0.01%	2.30E+06	0.02	14.98%	87.55%	0.00%	0.00000	0.00000
0	6	0.00	9.47E+07	2.35E+06	0.02	29.15%	70.83%	0.02%	2.30E+06	0.02	14.69%	87.71%	0.00%	0.00000	0.00000
0	7	0.00	9.47E+07	2.35E+06	0.02	29.14%	70.84%	0.03%	2.30E+06	0.02	14.89%	87.62%	0.00%	0.00000	0.00000
0	8	0.00	9.47E+07	2.35E+06	0.02	29.18%	70.83%	-0.01%	2.30E+06	0.02	14.87%	87.57%	0.00%	0.00000	0.00000
0	9	0.00	9.47E+07	2.35E+06	0.02	29.18%	70.83%	-0.01%	2.30E+06	0.02	14.99%	87.52%	0.00%	0.00000	0.00000
0	10	0.00	9.47E+07	2.35E+06	0.02	29.17%	70.80%	0.03%	2.30E+06	0.02	14.93%	87.54%	0.00%	0.00000	0.00000
0	11	0.00	9.47E+07	2.35E+06	0.02	29.19%	70.78%	0.02%	2.30E+06	0.02	14.91%	87.48%	0.00%	0.00000	0.00000
CMG 0 total		0.00	1.14E+09	2.83E+07	0.02	29.20%	70.79%	0.01%	2.76E+07	0.02	14.94%	87.55%	0.00%	0.00000	0.00000

Instruction		Load-store instruction															Prefetch instruction				Floating-point instruction				Floating-point move and conversion instruction		Integer instruction	Branch instruction	Predicate instruction	Crypto-graphic instruction	Other instruction	Total																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
		Load instruction								Store instruction							Contiguous prefetch instruction	Gathering prefetch instruction	Scalar prefetch instruction	DCZVA instruction	Floating-point instruction except FMA and reciprocal	FMA instruction	Floating-point reciprocal instruction	Floating-point conversion instruction	Floating-point store instruction																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
		SIMD								Non-SIMD																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
		Single vector contiguous load instruction	Multiple vector contiguous structure load instruction	Non-contiguous gather load instruction	Broadcast load instruction	Floating-point register fill instruction	Predicate register fill instruction	First-fault load instruction	Non-SIMD load instruction	Single vector contiguous store instruction	Multiple vector contiguous structure store instruction	Non-contiguous scatter store instruction	Floating-point register spill instruction	Predicate register spill instruction	Non-SIMD store instruction																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
Process	Thread	0	1	2	3	4	5	6	7	8	9	10	11	CMG 0 total	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00