

crypto\_kem  
ledakem1464  
implementations

T:portableopt

?:portableopt

https://bench.cr.yp.to  
20230702

amd64 Bobcat

amd64 K8

amd64 K10 65nm

amd64 K10 45nm

amd64 K10 32nm

amd64 Bulldozer

amd64 Piledriver

amd64 Zen

amd64 Zen 2

amd64 Zen 3

amd64 Knights Landing

amd64 Golden Cove

amd64 Cascade Lake

amd64 Tiger Lake

amd64 Skylake+512x2

amd64 Ice Lake

amd64 Comet Lake

amd64 Cannon Lake

amd64 Coffee Lake

amd64 Kaby Lake

amd64 Skylake

amd64 Broadwell+AES

amd64 Haswell+AES

amd64 Ivy Bridge+AES

amd64 Sandy Bridge+AES

amd64 Sandy Bridge

amd64 Westmere

amd64 Core 2 45nm

amd64 Core 2 65nm

amd64 Gracemont

amd64 Tremont

amd64 Goldmont Plus

amd64 Goldmont

amd64 Airmont

amd64 Silvermont

amd64 Bonnell

ppc32 G3

riscv64 U54

mips32 Octeon II

armeabi Armada

armeabi Cortex-A7

armeabi Cortex-A8

armeabi Cortex-A9+NEON

armeabi Cortex-A15

aarch64 X-Gene

aarch64 Cortex-A53

aarch64 Cortex-A53+crypto

aarch64 Cortex-A57+crypto

aarch64 Cortex-A72

aarch64 Cortex-A72+crypto

aarch64 ThunderX2

Time

2097152

4194304

8388608

16777216

33554432

h8bobcat: 2 x 1650MHz; 2011 AMD G-T56n; amd64; Bobcat (600F10); supercop-20230630
m4e50: 2 x 1650MHz; 2011 AMD E-450; amd64; Bobcat (600F20); supercop-20200618
mac: 2 x 2000MHz; 2006 AMD Athlon 64 X2; amd64; K8 (40f82); supercop-20170105
gcc16: 8 x 2194MHz; 2008 AMD Opteron 8354; amd64; K10 65nm (100F23); supercop-20171218
hydra3: 6 x 3300MHz; 2010 AMD Phenom II X6 1100T; amd64; K10 45nm (100F40); supercop-20171218
sonnigstar: 4 x 3200MHz; 2009 AMD Phenom II X4 955; amd64; K10 45nm (100F42); supercop-20170904
h8aw: 1 x 1700MHz; 2010 AMD Athlon II Neo K125; amd64; K10 45nm (100F63); supercop-20170105
hydra4: 4 x 2600MHz; 2011 AMD A8-3850; amd64; K10 32nm (300F10); supercop-20230630
hydra5: 4 x 2900MHz; amd64; K10 32nm (300F10); supercop-20230630
bobcat: 4 x 4000MHz; 2012 AMD FX-8350; amd64; Bulldozer (600P20); supercop-20171218
calista: 4 x 4000MHz; 2012 AMD FX-8350; amd64; Bulldozer (600P20); supercop-20171218
hydra6: 4 x 3100MHz; 2011 AMD FX-8120; amd64; Bulldozer (600P12); supercop-20171218
shawr216: 4 x 4000MHz; 2012 AMD FX-8350; amd64; Bulldozer (600P20); supercop-20230630
hydra9: 2 x 3800MHz; 2012 AMD A10-5800K; amd64; Piledriver (610F01); supercop-20171218
hprariaty: 2 x 2000MHz; 2012 AMD A10-4655M; amd64; Piledriver (610F01); supercop-20200618
zebra: 8 x 3000MHz; 2017 AMD Ryzen 7 1700; amd64; Zen (800H11); supercop-20170885
zebra: 8 x 3000MHz; 2017 AMD Ryzen 7 1700; amd64; Zen (800H11); supercop-20170885
rubah3: 4 x 3100MHz; 2011 AMD Ryzen 3 1300; amd64; Zen (800H11); supercop-20211232
dali: 2 x 1600MHz; 2012 AMD Athlon Silver E2-9000; amd64; Zen (800H11); supercop-20211232
reno: 64 x 2250MHz; 2019 AMD EPYC 7742; amd64; Zen 2 (830F10); supercop-20230630
reno: 6 x 3000MHz; 2022 AMD Ryzen 5 4500U; amd64; Zen 2 (860H01); supercop-20230630
lacienne: 4 x 2600MHz; 2021 AMD Ryzen 3 3300U; amd64; Zen 2 (830F10); supercop-20230630
gwj1346: 64 x 2000MHz; 2019 AMD EPYC 7702; amd64; Zen 2 (830F10); supercop-20191017
bealink: 6 x 4062MHz; 2021 AMD Ryzen 5 5560U; amd64; Zen 3 (a50F00); supercop-20211122
sanb: 16 x 3400MHz; 2020 AMD Ryzen 9 5950X; amd64; Zen 3 (a50F10); supercop-20220313
cezanne: 6 x 3900MHz; 2021 AMD Ryzen 5 PRO 5650G; amd64; Zen 3 (a50F00); supercop-20230630
gwj1291: 68 x 1400MHz; 2016 Intel Xeon Phi 7250; amd64; Knights Landing (50671); supercop-20180818
gwj1154: 64 x 1300MHz; 2016 Intel Xeon Phi 7210; amd64; Knights Landing (50671); supercop-20170228
alder: 4 x 3300MHz; 2022 Intel Core i3-12100; amd64; Golden Cove (90673-00); supercop-20230630
alder2.1f62690.5600000: 2 x 1600MHz; 2022 Intel Core i3-1215U performance cores; amd64; Golden Cove (906A4-40); supercop-20230630
avx512iaah: 18 x 3000MHz; 2019 Intel Core i9-10980XE; amd64; Cascade Lake (50657); supercop-20210126
peno4076: 20 x 2500MHz; 2019 Intel Xeon Gold 6248; amd64; Cascade Lake (50657); supercop-20191017
panthar: 4 x 2800MHz; 2020 Intel Core i7-1165G7; amd64; Tiger Lake (806c1); supercop-20230630
sanmy1024: 18 x 2100MHz; 2017 Intel Xeon Gold 6150; amd64; Skylake+512x2 (806e4); supercop-20170814
sanmy1024: 8 x 2500MHz; 2017 Intel Core i7-8750; amd64; Skylake+512x2 (806e4); supercop-20171212
sanmy1024: 8 x 2500MHz; 2017 Intel Core i7-8750; amd64; Skylake+512x2 (806e4); supercop-20171212
gwj1258: 30 x 2100MHz; 2017 Intel Xeon Gold 6150; amd64; Skylake+512x2 (806e4); supercop-20191017
gwj1258: 30 x 2100MHz; 2017 Intel Xeon Gold 6150; amd64; Skylake+512x2 (806e4); supercop-20191017
icelake2: 4 x 1000MHz; 2019 Intel Core i3-1035G1; amd64; Ice Lake (706e5); supercop-20221005
icelake: 4 x 1100MHz; 2020 Intel Core i5-1030NG7; amd64; Ice Lake (706e5); supercop-20200626
cus10: 2 x 2100MHz; 2019 Intel Core i3-10110U; amd64; Comet Lake (806ec); supercop-20230630
cosat: 2 x 2100MHz; 2019 Intel Core i3-10110U; amd64; Comet Lake (806ec); supercop-20230630
cannon: 2 x 2200MHz; 2018 Intel Core i3-8121U; amd64; Cannon Lake (90663); supercop-20190910
r4000: 4 x 3300MHz; 2018 Intel Xeon E-2134; amd64; Coffee Lake (906a3); supercop-20230630
n13v16: 6 x 3200MHz; 2017 Intel Core i7-8700; amd64; Coffee Lake (906a3); supercop-20190910
kabya: 4 x 3000MHz; 2017 Intel Xeon E3-1220 v6; amd64; Kaby Lake (906e9); supercop-20230630
shoalshars: 2 x 2400MHz; 2017 Intel Core i3-7102; amd64; Kaby Lake (906e9); supercop-20211122
istalaucl1: 4 x 3100MHz; 2018 Intel Core i7-8809G; amd64; Kaby Lake (906e9); supercop-20191017
sanb: 2 x 3300MHz; 2015 Intel Pentium G4400; amd64; Skylake (506e3); supercop-20171218
sanba: 4 x 3000MHz; 2015 Intel Xeon E3-1220 v5; amd64; Skylake (506e3); supercop-20230630
gwj1441: 28 x 2400MHz; 2016 Intel Xeon E5-2650 v4; amd64; Broadwell+AES (406f1); supercop-20180818
sanmy1154: 18 x 2400MHz; 2016 Intel Xeon E5-2650 v4; amd64; Broadwell+AES (406f1); supercop-20170228
sanmy1154: 18 x 2400MHz; 2016 Intel Xeon E5-2650 v4; amd64; Broadwell+AES (406f1); supercop-20170228
bobcat: 8 x 1700MHz; 2011 Intel Xeon E3-1220 v2; amd64; Sandy Bridge+AES (206a7); supercop-20230630
alder: 4 x 1900MHz; 2015 Intel Core i3-5005G1; amd64; Broadwell+AES (506e4); supercop-20230630
gwj1465: 20 x 2200MHz; 2014 Intel Xeon E5-2650 v3; amd64; Haswell+AES (306e7); supercop-20190918
h81002: 12 x 2400MHz; 2012 Intel Xeon E3-1275 V2; amd64; Haswell+AES (306e7); supercop-20210228
h81002: 12 x 2400MHz; 2012 Intel Xeon E3-1275 V2; amd64; Haswell+AES (306e7); supercop-20210228
h81002: 12 x 2400MHz; 2012 Intel Xeon E3-1275 V2; amd64; Haswell+AES (306e7); supercop-20210228
h81002: 12 x 2400MHz; 2012 Intel Xeon E3-1275 V2; amd64; Haswell+AES (306e7); supercop-20210228
sanmy113: 12 x 2700MHz; 2013 Intel Xeon E5-2697 v2; amd64; Ivy Bridge+AES (306e4); supercop-20180818
sanmy113: 12 x 2700MHz; 2013 Intel Xeon E5-2697 v2; amd64; Ivy Bridge+AES (306e4); supercop-20180818
hydra6: 4 x 3000MHz; 2012 Intel Core i5-3470U; amd64; Ivy Bridge+AES (306a9); supercop-20230630
hedera: 4 x 2500MHz; 2012 Intel Xeon E3-1265L V2; amd64; Ivy Bridge+AES (306a9); supercop-20210326
hedera: 4 x 2500MHz; 2012 Intel Xeon E3-1265L V2; amd64; Ivy Bridge+AES (306a9); supercop-20210326
robin281: 8 x 2600MHz; 2012 Intel Xeon E5-4650L; amd64; Sandy Bridge+AES (206a7); supercop-20170228
hydra7: 4 x 3100MHz; 2011 Intel Xeon E3-1225; amd64; Sandy Bridge+AES (206a7); supercop-20230630
h8sandy: 2 x 2100MHz; 2011 Intel Core i3-2310M; amd64; Sandy Bridge (206a7); supercop-20211122
glyse: 2 x 3200MHz; 2010 Intel Core i5-650; amd64; Westmere (20652); supercop-20170105
voifdale: 2 x 3060MHz; 2009 Intel Core 2 Duo E7600; amd64; Core 2 45nm (1067a); supercop-20230630
katana: 2 x 2137MHz; 2006 Intel Core 2 Duo E6400; amd64; Core 2 65nm (6f6); supercop-20170105
trsdant: 2 x 2000MHz; 2007 Intel Core 2 Duo T7300; amd64; Core 2 65nm (6f6); supercop-20230630
augap: 4 x 2040MHz; 2007 Intel Core 2 Quad Q6600; amd64; Core 2 65nm (6f6); supercop-20230630
laour: 4 x 2394MHz; 2007 Intel Core 2 Quad Q6600; amd64; Core 2 65nm (6f6); supercop-20201130
alder2.1f62690.3300000: 4 x 1600MHz; 2022 Intel Core i3-1215U efficiency cores; amd64; Gracemont (906A4-20); supercop-20230630
jasper2: 2 x 1100MHz; 2021 Intel Celeron N4500; amd64; Tremont (906c0); supercop-20230630
jasper3: 4 x 2000MHz; 2021 Intel Celeron N5105; amd64; Tremont (906c0); supercop-20230630
jasper: 4 x 1100MHz; 2021 Intel Pentium Silver N6000; amd64; Tremont (906c0); supercop-20230630
gemini: 2 x 1100MHz; 2019 Intel Celeron N4020; amd64; Goldmont Plus (706a8); supercop-20230630
wooden: 4 x 1500MHz; 2016 Intel Celeron J3455; amd64; Goldmont (506c9); supercop-20230630
soviM8h1: 16 x 2100MHz; 2017 Intel Atom C3955; amd64; Goldmont (506f1); supercop-20191017
mucca: 4 x 1600MHz; 2015 Intel Pentium N3700; amd64; Airmont (406c3); supercop-20230630
cherry: 4 x 1440MHz; 2016 Intel Atom i5-Z8350; amd64; Silvermont (406c4); supercop-20230630
h8ato: 2 x 1866MHz; 2011 Intel Atom D2500; amd64; Bonnell (306f1); supercop-20230630
alntendosilluaxng: 1 x 729MHz; 2006 IBM PowerPC Broadway; ppc32; G3 (G3); supercop-20191221
hifiveunleashedriscv: 4 x 1400MHz; 2017 SiFive Freedom U540; riscv64; U54 (sifive,u54-mc); supercop-20191221
riscvunleashed000: 4 x 1000MHz; 2017 SiFive Freedom U540; riscv64; U54 (sifive,u54-mc); supercop-20210326
gcc23: 2 x 2000MHz; 2011 Cavium Octeon II CN6120; mips32; Octeon II (cnnips64v2); supercop-20230630
expofsfz2: 2 x 2000MHz; 2011 Cavium Octeon II CN6120; mips32; Octeon II (cnnips64v2); supercop-20220213
teside: 1 x 1200MHz; 2010 Marvell Armada 310; armeabi; Armada (562f311); supercop-20170718
berry2: 4 x 900MHz; 2016 Broadcom BCM2836; armeabi; Cortex-A7 (410f075); supercop-20230630
nblack: 1 x 1000MHz; 2012 TI Sitara XAM3359AZCZ100; armeabi; Cortex-A8 (413fc082); supercop-20230630
noevenblue: 4 x 1200MHz; 2011 Freescale i.MX6 Quad; armeabi; Cortex-A9+NEON (412fc09a); supercop-20200702
artix: 4 x 1200MHz; 2012 Samsung Exynos 44127; armeabi; Cortex-A9+NEON (413fc090); supercop-20191221
noevenblue: 4 x 1200MHz; 2011 Freescale i.MX6 Quad; armeabi; Cortex-A9+NEON (412fc09a); supercop-20191221
jetsontxt: 4 x 2065MHz; 2014 NVIDIA Tegra K1; armeabi; Cortex-A15 (413fc0f3); supercop-20170728
gcc16: 8 x 1600MHz; 2014 APM 88320B-X1; aarch64; X-Gene (500F000); supercop-20171218
pi3hplai: 4 x 1400MHz; 2018 Broadcom BCM2837B0; aarch64; Cortex-A53 (410f034); supercop-20230630
pi3hplai: 4 x 1400MHz; 2018 Broadcom BCM2837B0; aarch64; Cortex-A53 (410f034); supercop-20211122
leeds: 4 x 1500MHz; 2015 ARMv8-A Cortex-A53; aarch64; Cortex-A53+crypto (410f034); supercop-20170104
leeds: 4 x 1500MHz; 2015 ARMv8-A Cortex-A53; aarch64; Cortex-A53+crypto (410f034); supercop-20170104
gogiacraslav: 4 x 1500MHz; 2015 NXP i.MX 8M; aarch64; Cortex-A53+crypto (410f034); supercop-20191221
reagaedre83000c: 4 x 1800MHz; 2011 Rockchip RK3288; aarch64; Cortex-A53+crypto (410f034); supercop-20191221
jetsontxt: 4 x 1734MHz; 2015 NVIDIA Tegra X1; aarch64; Cortex-A57+crypto (418f071); supercop-20191017
warbear: 8 x 2000MHz; 2016 AMD Opteron A1100; aarch64; Cortex-A57+crypto (411f072); supercop-20200626
pi4h: 4 x 1500MHz; 2019 Broadcom BCM2711; aarch64; Cortex-A72 (410f083); supercop-20211122
rpi4bunleashed: 4 x 1500MHz; 2019 Broadcom BCM2711; aarch64; Cortex-A72 (410f083); supercop-20191221
a7: 2 x 2100MHz; 2015 Mediatek MT8173; aarch64; Cortex-A72+crypto (418f080); supercop-20190904
pmo4145: 64 x 2500MHz; 2018 Cavium ThunderX2 CN9980; aarch64; ThunderX2 (431f0a1); supercop-20191017

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