

# Memory compatible with the ODROID-H4 series

We've been using the following memory modules with ODROID-H4 series in the development process. The Alder Lake-N DRAM interface speed is limited at DDR5-4800 and any higher speed DRAM like DDR5-5600 modules will work in DDR5-4800 speed. We will keep updating the list when we have more data from users.

Note that the Alder Lake-N SoC actual maximum memory address space is 48GB while Intel says it is 16GB which is a wrong information. Therefore, you can install up to a 48GB DDR5 SO-DIMM module to play with a large DRAM space for your application.

## Confirmed RAM Modules

Brand	Capacity	PC5 Category	Manufacturer's part number	Informed Speed (MT/s)	Recognized Speed (MT/s)	Tested by
Samsung	8GiB	PC5-38400	M425R1GB4BB0-CQK	4800	4800	Hardkernel
Samsung	8GiB	PC5-44800	M425R1GB4BB0-CWM	5600	4800	Hardkernel
Samsung	16GiB	PC5-44800	M425R2GA3PB0-CWM	5600	4800	Hardkernel
Samsung	32GiB	PC5-38400	M425R4GA3BB0-CQK	4800	4800	Hardkernel
Samsung	32GiB	PC5-44800	M425R4GA3PB0-CWM	5600	4800	Hardkernel
Crucial	16GiB	PC5-44800	CT16G56C46S5	5600	4800	@miltador2
SK Hynix	16GiB	PC5-38400	HMCG78MEBSA092N	4800	4800	Hardkernel
Crucial	16GiB	PC5-38400	CT16G48C40S5	4800	4800	@randydeb
Corsair	32GiB	PC5-38400	CMSX32GX5M1A4800C40	4800	4800	@Jack@007
Crucial	48GiB	PC5-44800	CT48G56C46S5	5600	4800	Hardkernel
Generic Brand (recognized as Crucial)	48GiB	PC5-38400	CT24G56C46S5.C8B ( <a href="https://www.ebay.com/itm/204689705145">https://www.ebay.com/itm/204689705145</a> )	5600	4800	Hardkernel
Kingston	48GiB	PC5-44800	KVR56S46BD8-48	5600	4800	@tieske

## Incompatible RAM Modules

- SK Hynix 16GiB 1Rx8 DDR5 SODIMM 4800B – SA0-1010-XT , P/N HMCG78MEBSA092N BA. Reported by @miltador2 <https://forum.odroid.com/viewtopic.php?f=173&t=48393>

**Among several Samsung DRAM modules, there was one that would not boot on the H4, but after wiping the gold pin contact surface with a pencil eraser, it worked normally. Perhaps because of DDR5's high operating clock frequency, it is more sensitive to contact resistance.**

## SO-DIMM socket Durability (mating cycles)

According to the [socket datasheet](#), the number of mating cycles is 25 only.  
It seems to be a JEDEC standard. So do not install/uninstall your SO-DIMM memory cards frequently.

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