# RAW S1 CPU COOLER TEST

The system presented on the right with stock settings, was stressed using Blender Cycles Render (CPU). Sensors were logged using HWiNFO64 during the first 16 minutes of the rendering with all 16 cores being loaded 100%.

Noise levels were measured using UNI-T sound-level meter placed 30 cm from the (CPU) side of the case.

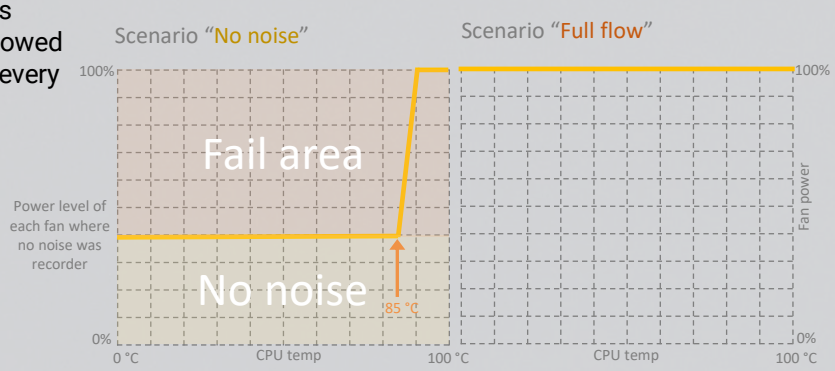
Thermal paste used: Noctua NT-H2

6 different CPU cooler setups have been tested. Each CPU cooler setup has been tested with two different scenarios where CPU fan, case fan and occasional 2nd CPU fan followed the fan curve principles shown on the right (different for every cooler).

- Noctua **NH-L12S**
- Cooler Master **G100M**
- Cryorig **C1 +** Noctua **NF-A12x15**
- Noctua **NH-L12 GE +** Noctua **NF-A12x15**
- Noctua **NH-L12 GE +** Scythe **Slip Stream 120 Slim**
- Alpenföhn **Black Ridge +** Noctua **NF-A12x25**

| | |
|---|---|
| Case | LOUQE RAW S1 |
| Motherboard | ASUS ROG STRIX B550-I GAMING |
| CPU | AMD Ryzen 9 3950X (16 core) |
| GPU | EVGA RTX 2070 FTW3 Ultra (3-slot) |
| RAM | 2 x 16GB Corsair DDR4 3200MHz CL16 |
| PSU | Corsair SF600 |
| CASE FAN | Noctua NF-A12x25 (exhaust) |
| HD | Corsair Force MP600 1TB |

**The two scenarios**




How to read the presented data (on next page)

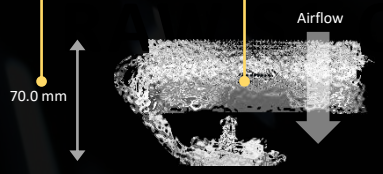
Room temperature 20 °C

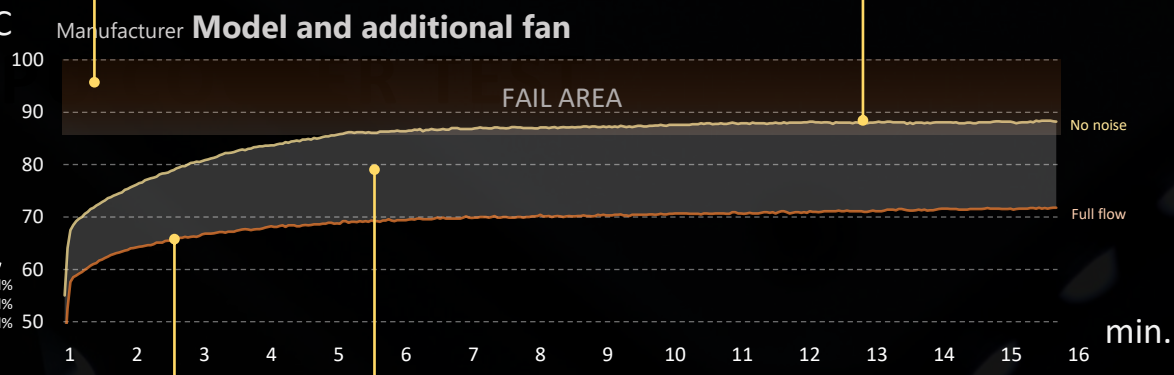
This area shows where fans start to spin faster than the set "no noise" level and start producing noise, if yellow curve goes into this area the cooler has failed to cool the system without increasing fan speeds and consequently creating noise

Illustration of CPU cooling stack

CPU Die average temperature in scenario "no noise"

CPU Cooling stack height




| Measure | No noise | Full flow |
|---|---|---|
| CPU cooler model | Fan speed% | Fan speed% |
| Case fan model | Fan speed% | Fan speed% |
| Additional fan on CPU cooler | Fan speed% | Fan speed% |
| Noise over ambient level | dB | dB |

Fan speeds and noise levels

CPU Die average temperature in scenario "Full flow"

Area possible to configure balancing noise and performance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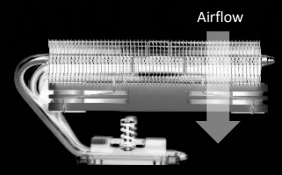
# CPU Die average temp.

°C

## Noctua NH-L12S




| Measure | No noise | Full flow |
|---|---|---|
| Noctua L12S | 40% | 100% |
| Case fan NF-A12x25 | 49% | 100% |
| No additional fan | n/a | n/a |
| Noise over ambient level | Fail | 13,6 dB |

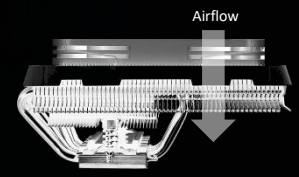



## Cooler Master G100M


| Measure | No noise | Full flow |
|---|---|---|
| Cooler Master G100M | 40% | 100% |
| Case fan NF-A12x25 | 26% | 100% |
| No additional fan | n/a | n/a |
| Noise over ambient level | Fail | **21,3 dB** |



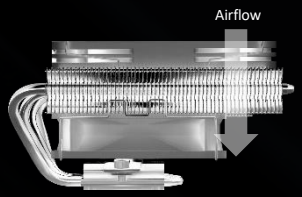

## Cryorig C1 + Noctua NF-A12x15




| Measure | No noise | Full flow |
|---|---|---|
| Cryorig + NF-A12x15 | 38% | 100% |
| Case fan NF-A12x25 | 49% | 100% |
| No additional fan | n/a | 100% |
| Noise over ambient level | Fail | 18,2 dB |



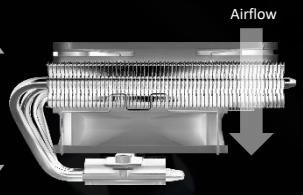

## Noctua NH-L12 GE + Noctua NF-A12x15




| Measure | No noise | Full flow |
|---|---|---|
| Noctua L12 Ghost Edition | 49% | 100% |
| Case fan NF-A12x25 | 49% | 100% |
| Noctua NF-A12x15 PWM | 38% | 100% |
| Noise over ambient level | <1 dB | 18,4 dB |



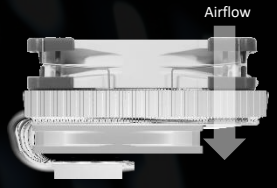

## Noctua NH-L12 GE + Scythe Slip Stream 120 Slim




| Measure | No noise | Full flow |
|---|---|---|
| Noctua L12 Ghost Edition | 49% | 100% |
| Case fan NF-A12x25 | 49% | 100% |
| Scythe Slip Stream 120 Slim | 34% | 100% |
| Noise over ambient level | <1 dB | **26,3 dB** |

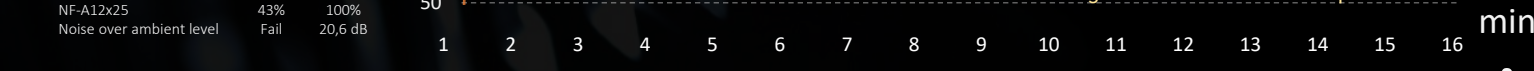



## Alpenföhn Black Ridge + Noctua NF-A12x25




| Measure | No noise | Full flow |
|---|---|---|
| Alpenföhn Black Ridge | 29% | 100% |
| Case fan NF-A12x25 | 49% | 100% |
| NF-A12x25 | 43% | 100% |
| Noise over ambient level | Fail | 20,6 dB |

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Presented results in this report are the average values of two runs for each curve