Make It Yours.

Cooler Master Hyper 612 Apex

Lab ID CMCLR00092

Type Air

Testing Date: Jul 5, 2025

Scheme: THETA

AMD AM5

No THETA level Intel LGA1851



Aristeidis Bitziopoulos, Certification Body General Manager

THETA Cooler Performance

THETA is a Cybenetics performance rating. It is not part of our ISO/IEC 17065 certification schemes and is outside our accreditation.

Overall Performance (OP) = W × F / T, where W is the average CPU power at the EPS connectors (W), F the average CPU frequency (MHz) and T the average CPU temperature (°C). A cooler is rated on its measured OP at 30 dB(A) normalized noise output; a cooler that cannot reach 30 dB(A) is rated on its own measured 25 dB(A) point. Air and AIO coolers have separate ladders on each test platform.

Evaluated before Revision 2.0 of the Cooling Solutions Test Protocol: the THETA level was assigned from the published results measured under Revision 1.8 (20 minutes per noise level, 10-minute cool-down). The cooler was not measured again, and the earlier procedure is not identical to the procedure of Revision 2.0.

Platform	THETA level	Test CPU	Mount	Rated at	Overall Performance (OP)
AMD AM5	**THETA Gold · Air · AMD AM5**	AMD Ryzen 9 7900X (AM5)	Default	30 dB(A)	10,139
Intel LGA1851	**No THETA level**	Intel Core Ultra 9 285K (LGA1851)	Default	-	-

General Information

Test Equipment

Noise Test Environment	Hemi Anechoic Chamber with 6dB(A) noise floor
Sound Analyzer	Bruel & Kjaer 2270 G4
Microphone	Bruel & Kjaer Type 4955-A
Temperature Logger	Picoscope TC-08
Climate Chamber	Giant Force GTH-800-20-CP-AR
Testing Methodology	Cybenetics Cooling Solutions Test Protocol

DUT Information

Brand	Cooler Master
Model	Hyper 612 Apex
Lab ID	CMCLR00092
Testing Date	Jul 5, 2025
Engineer	Aris Bitziopoulos

Climate Chamber

Noise Test Environment	Hemi Anechoic Chamber with 6dB(A) noise floor
Manufacturer	Giant Force
Model Number	GTH-800-20-CP-AR
Temperature Range	-20℃ ~ +100℃
Humidity Range	20% ~ 98% RH
Temperature/Humidity Constancy	±0.2℃; ±2.5%RH
Temperature/Humidity Uniformity at center	±0.5℃; ±4%RH
Internal Dimensions (WHD)	100 x 100 x 80 cm

External Dimensions (WHD)	145 x 190 x 135 cm
Net Weight (approximately)	450 Kg
Heat-up Time (No load, no linear)	(from 20°C to +100°C) 30min
Pull-down Time (No load, no linear)	(from 20°C to -20°C) 50min
Cooling System	Airtight compressor + evaporator fins + air-cooling condenser
Power Source	3Φ AC 380V ±5%, 50Hz±1% 10KW
Based on Standards	ISO 5801-2007, AMCA 210-0, ASHRAE 51-2007, IEC 61591-2005, GB/T 1236-200

AMD Test System

Mainboard	Asus TUF GAMING X670E-PLUS
CPU	AMD Ryzen 9 7900x
GPU	Embedded
NVMe	XPG GAMMIX S50 Lite 1TB
RAM	XPG Lancer DDR5 (2 x 16GB) 6000MHz
Power Supply	Seasonic Vertex 1200W (Cybenetics Platinum)
CPU Cooler	Device Under Test
Case	Cooler Master Test Bench

Technical Specifications

Manufacturer (OEM)	Cooler Master
Model	Hyper 612 Apex
Number of Fans	2
Fan #1	Cooler Master Mobius 120P Black Edition
Fan #2	Cooler Master Mobius 120P Black Edition
Type	Air
Heatpipes	6
Heatpipe Diameter	6mm
Length	127mm
Width	114mm
Height	159mm
Block Material	Aluminium

Weight	1129g
AMD Processors Support	AM5, AM4
Intel Processors Support	LGA1851,1700,1200,115x

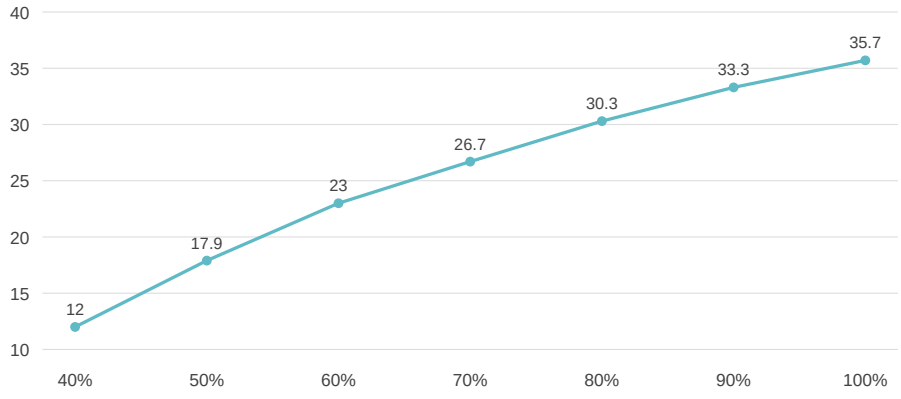
Noise Output and Fan Speed

Table

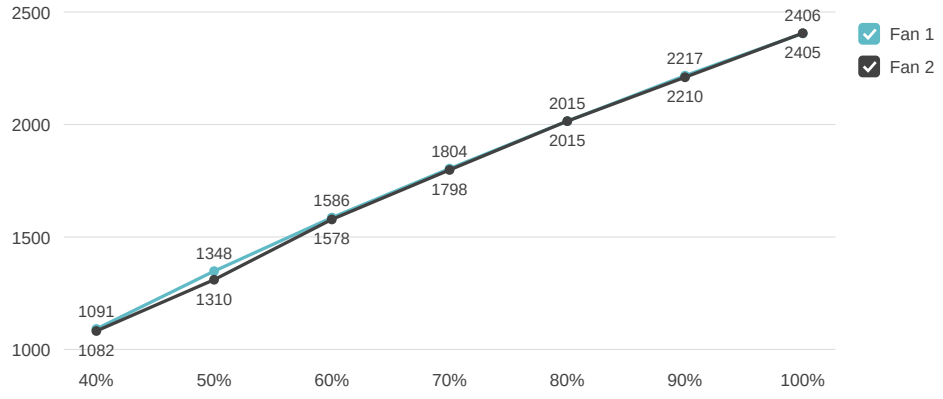
Fan Setting	Noise (dB(A))	Fan 1 (RPM)	Fan 2 (RPM)
40%	12.0	1091	1082
50%	17.9	1348	1310
60%	23.0	1586	1578
70%	26.7	1804	1798
80%	30.3	2015	2015
90%	33.3	2217	2210
100%	35.7	2405	2406

Graphs

Noise



Fan Speed



Fan Speed at Fixed Noise Levels

Noise Level	PWM (%)	Fan 1 (RPM)	Fan 2 (RPM)
15 dB(A)	44	1193	1179
20 dB(A)	52	1412	1381
25 dB(A)	66	1738	1722
30 dB(A)	76	1996	1985
35 dB(A)	95	2320	2318

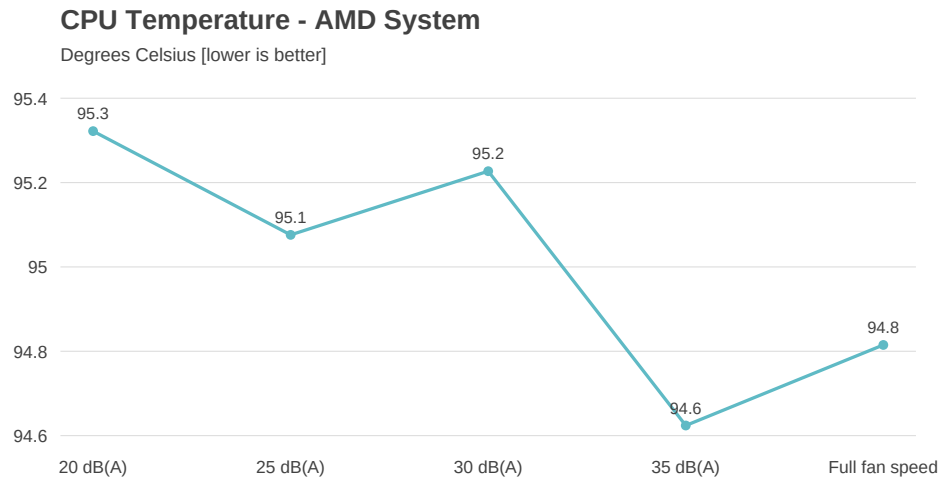
AMD System Test Results

Table

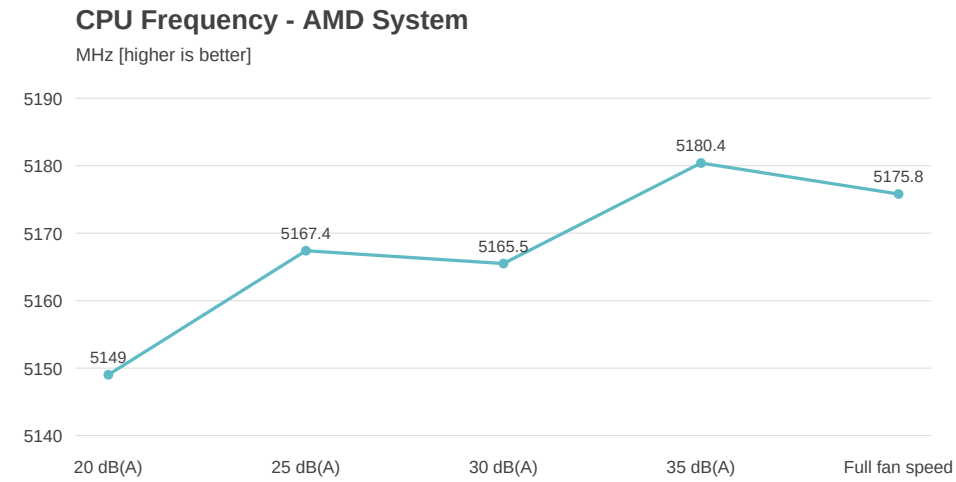
Condition	CPU Temperature (°C)	CPU Frequency (MHz)	CPU Power (W)	Overall Performance
20 dB(A)	95.3	5149	184.7	9977
25 dB(A)	95.1	5167	187.3	10180
30 dB(A)	95.2	5165	186.9	10139
35 dB(A)	94.6	5180	189.9	10394
Full fan speed	94.8	5176	189.0	10315

Graphs

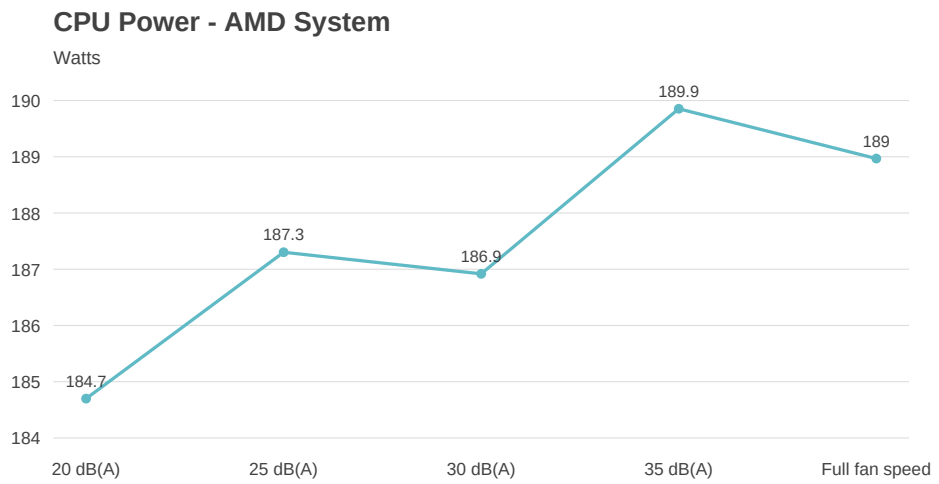
CPU Temperature



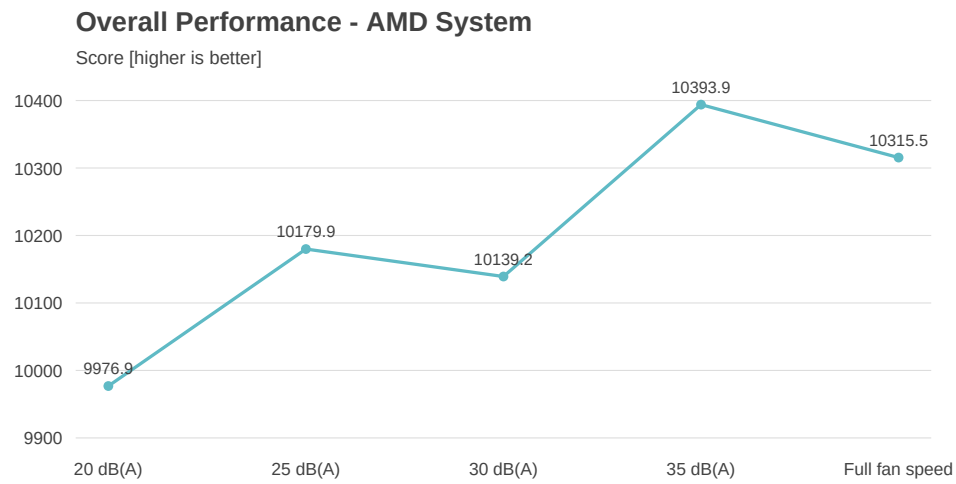
CPU Frequency



CPU Power



Overall Performance



Cooler Master Hyper 612 Apex

