be quiet!

be quiet! Pure Loop 3 LX 360mm

Serial Number 031USV5220001016

Lab ID BQCLR00095

Type Liquid

Testing Dates: Jul 31, 2025 to Aug 2, 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 · AIO · AMD AM5**	AMD Ryzen 9 7900X (AM5)	Default	30 dB(A)	11,120
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	be quiet!
Model	Pure Loop 3 LX 360mm
Serial Number	031USV5220001016
Lab ID	BQCLR00095
Testing Dates	Jul 31, 2025 to Aug 2, 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)	be quiet!
Model	Pure Loop 3 LX 360mm
Number of Fans	3
Fan #1	be quiet! Light Wings LX 120 High-Speed
Type	Liquid
Radiator Size	360mm
Radiator Thickness	28mm
Radiator Material	Aluminium
Pump Speed	5771RPM
Tube Length	400mm
Tube Diameter	11mm

Cold Plate Dimensions	56 x 56mm
Weight	1280g
RGB Lighting	Yes
AMD Processors Support	AM5, AM4
Intel Processors Support	LGA1851,1700,1200,115x
Warranty	3 years

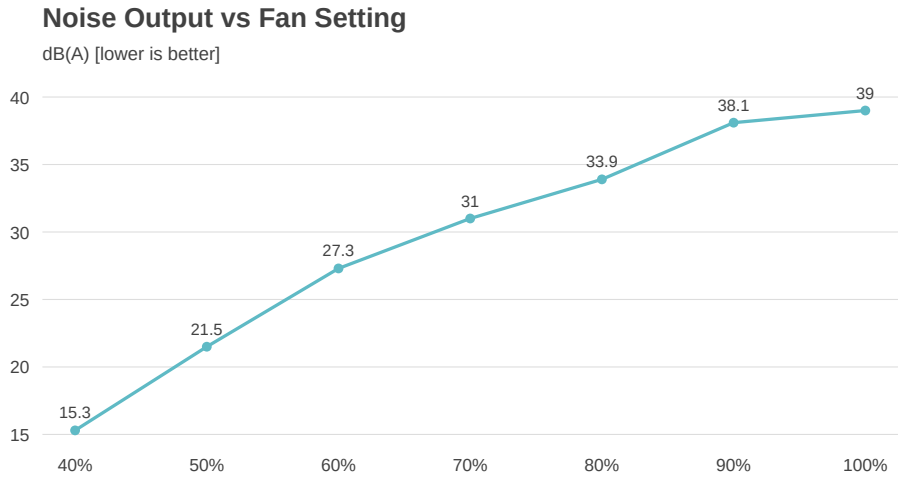
Noise Output and Fan Speed

Table

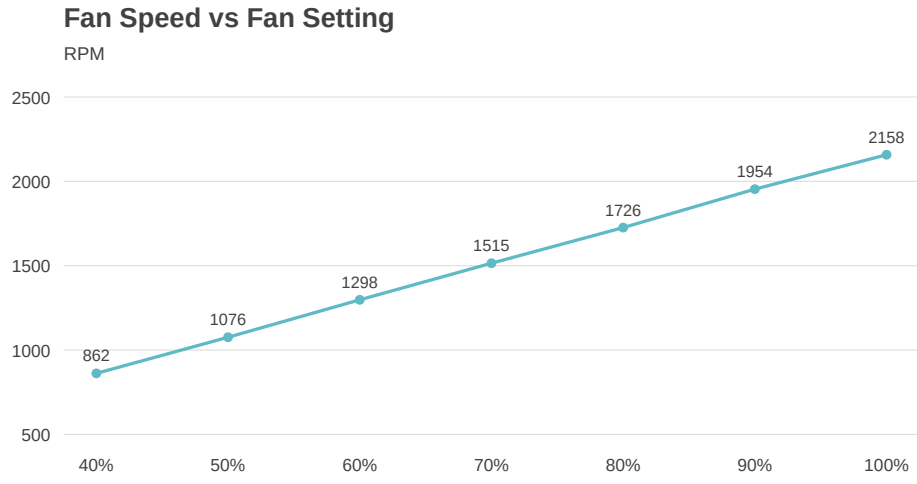
Fan Setting	Noise (dB(A))	Fan 1 (RPM)
40%	15.3	862
50%	21.5	1076
60%	27.3	1298
70%	31.0	1515
80%	33.9	1726
90%	38.1	1954
100%	39.0	2158

Graphs

Noise



Fan Speed



Fan Speed at Fixed Noise Levels

Noise Level	PWM (%)	Fan 1 (RPM)
15 dB(A)	40	862
20 dB(A)	47	1013
25 dB(A)	56	1205
30 dB(A)	68	1466
35 dB(A)	84	1807

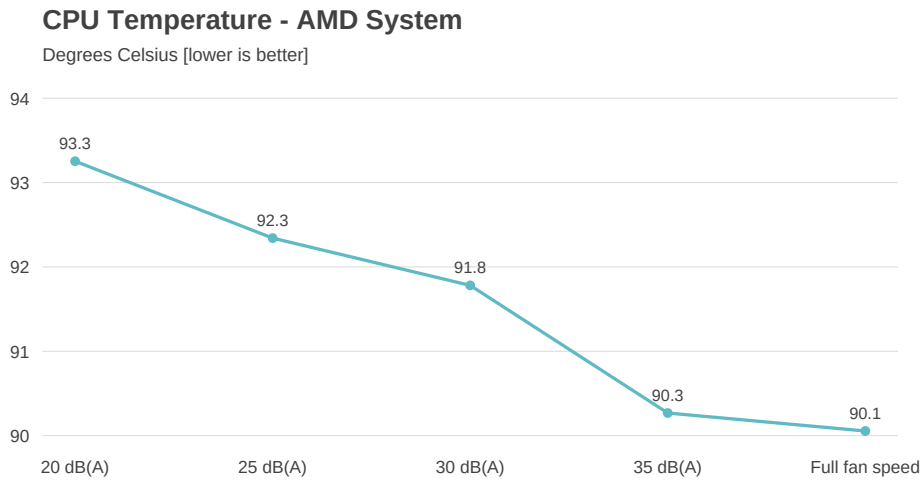
AMD System Test Results

Table

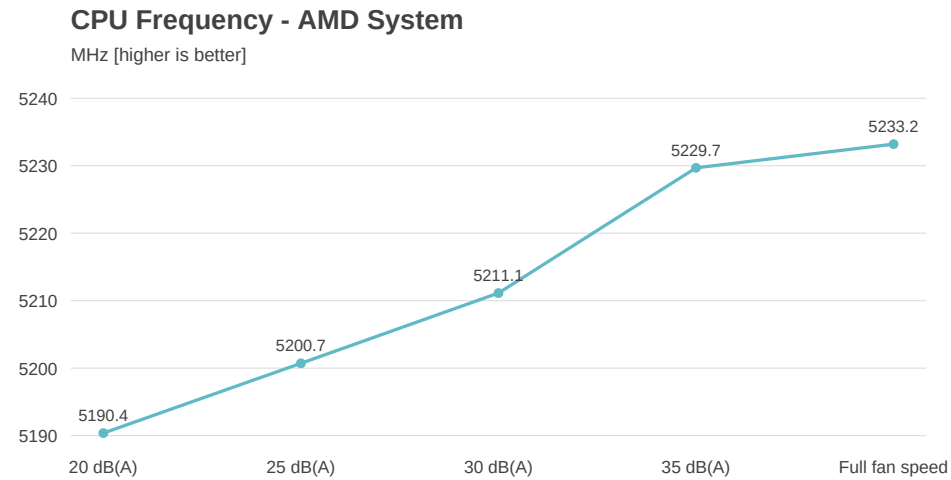
Condition	CPU Temperature (°C)	CPU Frequency (MHz)	CPU Power (W)	Overall Performance
20 dB(A)	93.3	5190	193.4	10767
25 dB(A)	92.3	5201	193.6	10905
30 dB(A)	91.8	5211	195.8	11120
35 dB(A)	90.3	5230	198.2	11482
Full fan speed	90.1	5233	198.4	11532

Graphs

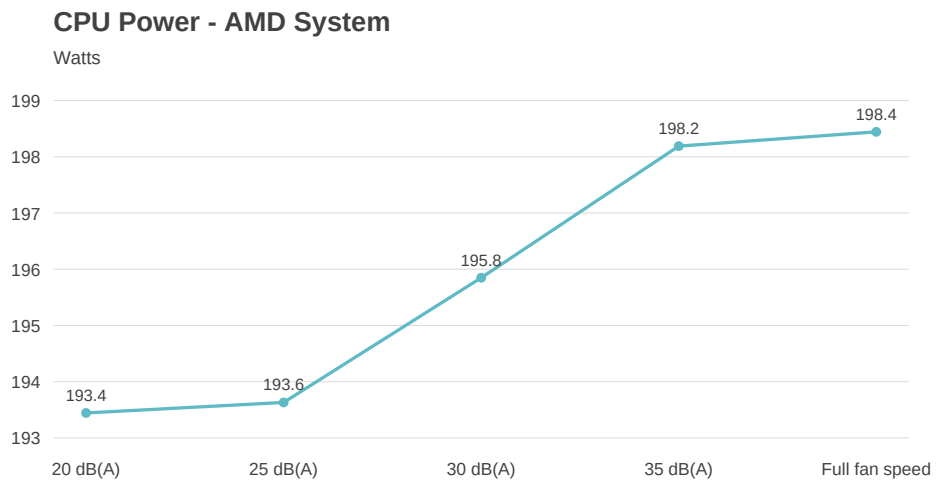
CPU Temperature



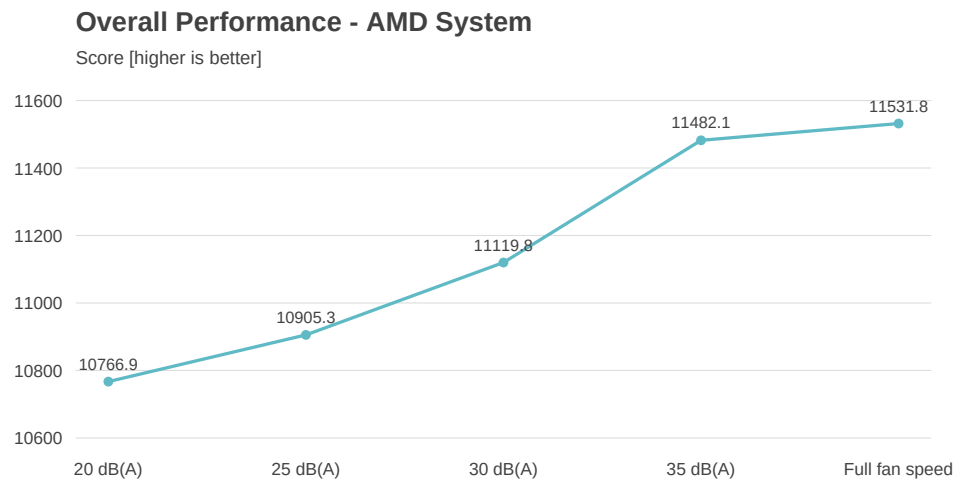
CPU Frequency



CPU Power

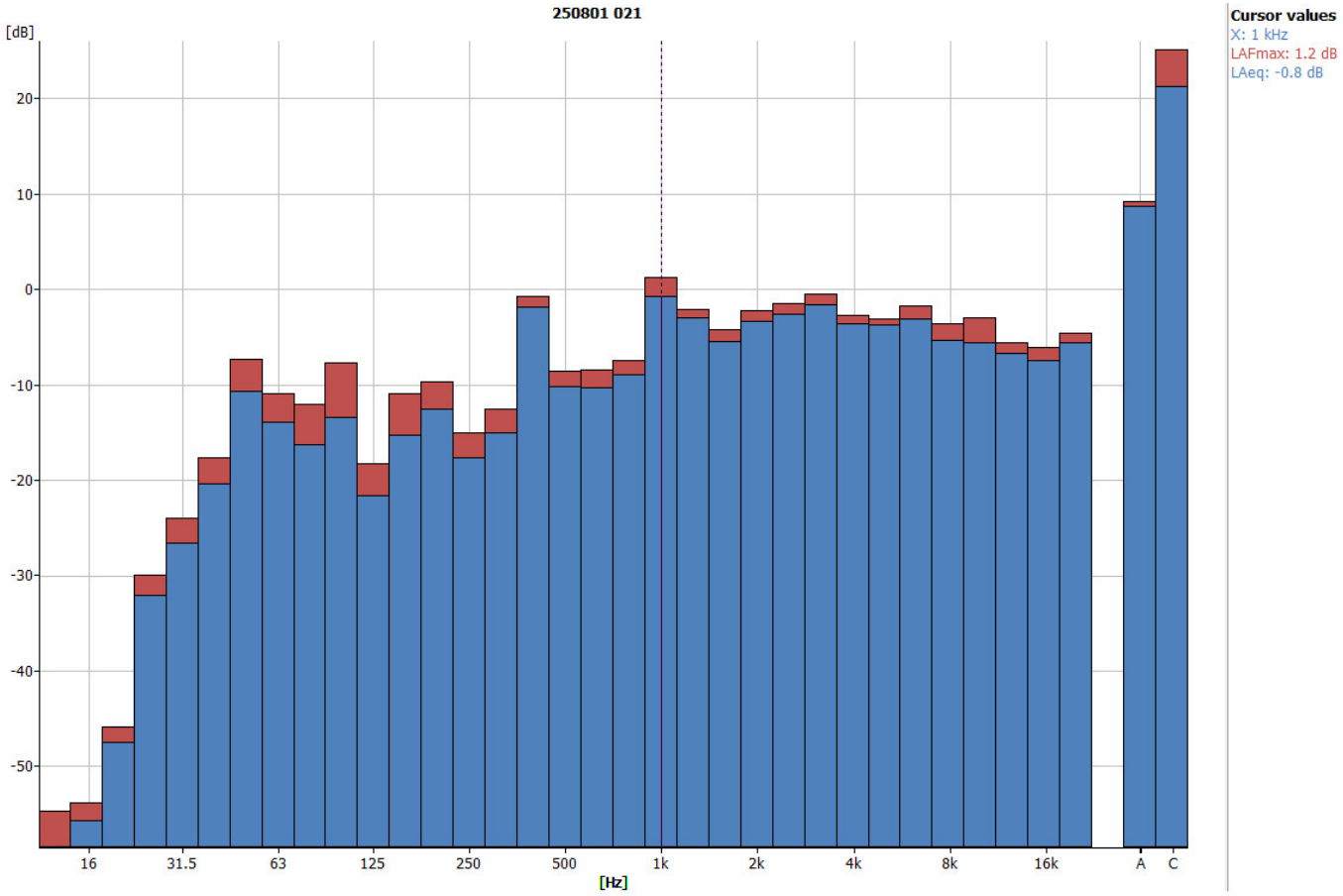


Overall Performance

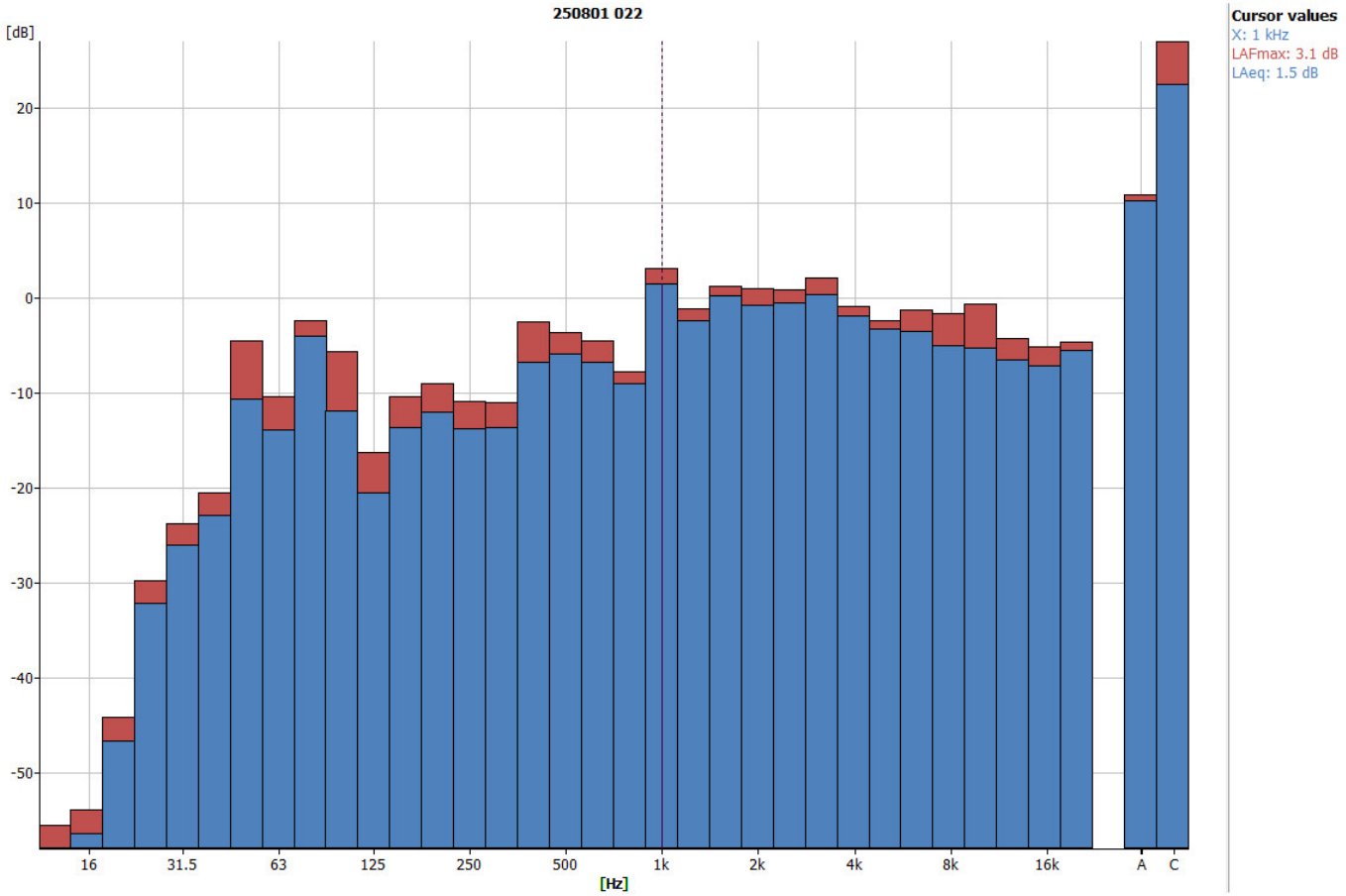


Frequency Plots

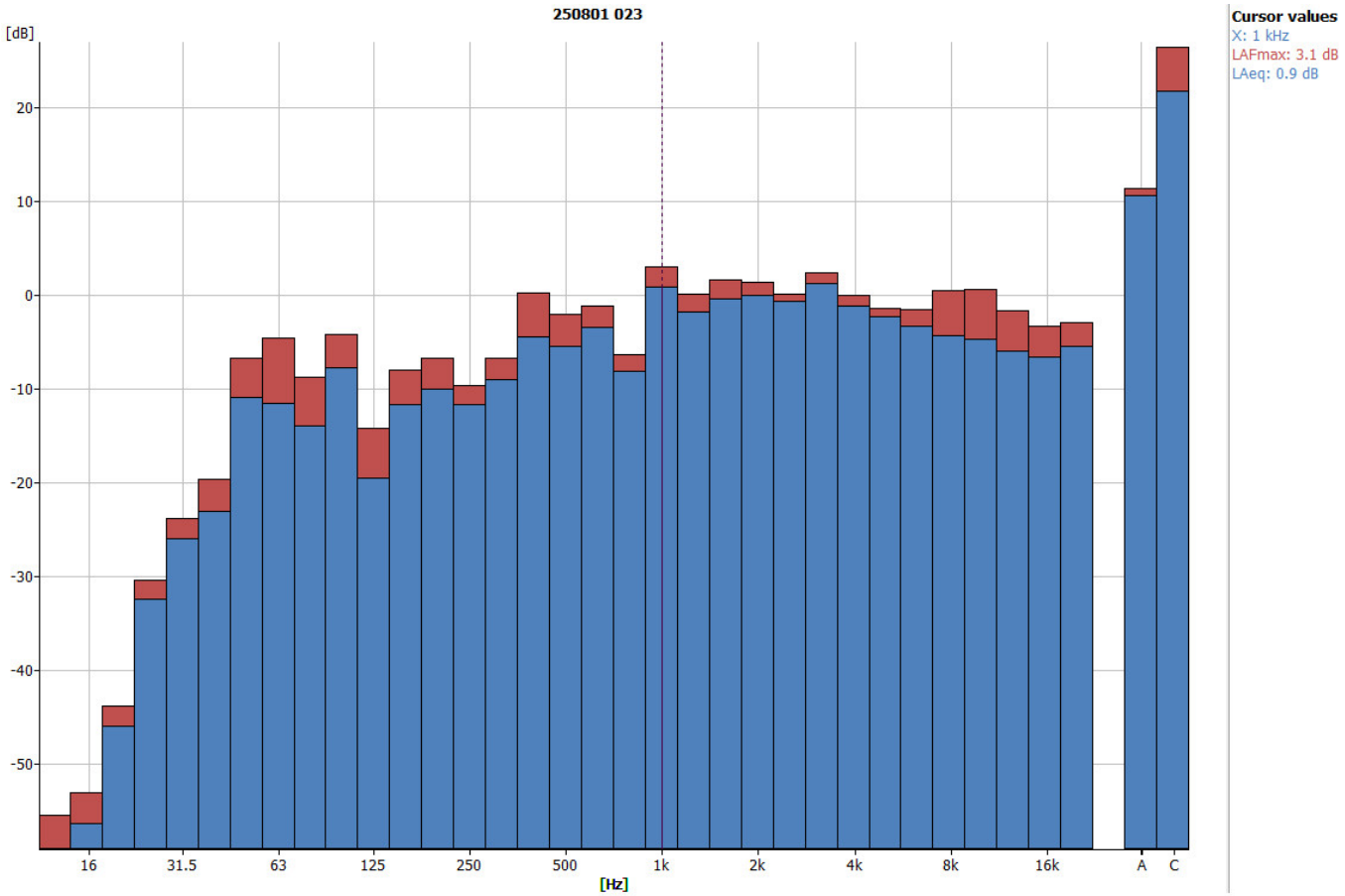
Pump 50%



Pump 75%


250801 022
[dB]
20
10
0
-10
-20
-30
-40
-50
16
31.5
63
125
250
500
1k
2k
4k
8k
16k
A
C
[Hz]
Cursor values
X: 1 kHz
LAFmax: 3.1 dB
LAeq: 1.5 dB

Pump 100%


250801 023
[dB]
20
10
0
-10
-20
-30
-40
-50
16
31.5
63
125
250
500
1k
2k
4k
8k
16k
A
C
[Hz]
Cursor values
X: 1 kHz
LAFmax: 3.1 dB
LAeq: 0.9 dB

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