



System Thermal Test Report

Model: **View 390 TG**

Version: **20250922A**

NO: **RS202509220001**

A. Introduction

B. Test Configuration

C. Conclusion

A. Introduction

- 1. Objective**
- 2. Equipment**
- 3. Procedure**



Our objective is to find out if the **View 390 TG** can efficiently extract the heat generated by the latest components, so we built a system with an **Intel Core Ultra 9 285K** and a **ASUS ROG Astral GeForce RTX 5090 32GB GDDR7 OC** and put it to the test. The passing criteria we set was to keep the internal temperature under **43°C** while the system is running at full load, with **eight** installed fans and a **AIO 360** installed.

The equipment we used in the thermal testing includes:

1. Temperature & Humidity Chamber
2. Data Acquisition Device
3. Thermocouple

The Temp. & Humidity Chamber ensures consistency in the testing environment, particularly temperature and humidity. The **temperature** was set at **25°C** and the **humidity** at **50%** in the chamber.

The Data Acquisition Device helps us to directly collect the data through **thermocouples**, which is the most important equipment for our testing. We set up the thermocouple inside the case at various points to measure the temperature.

We used **AIDA64 Extreme** and **FurMark ROG Edition** to push 100% load on the CPU and GPU and tested for 30 minutes.

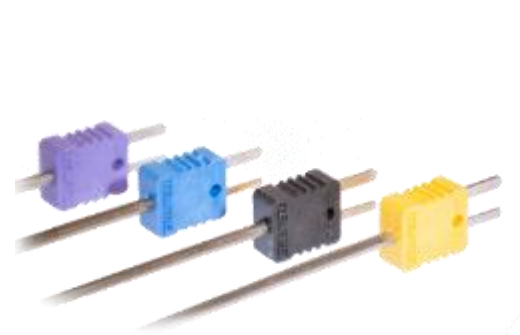
Testing steps:

1. Ready the systems
2. Place the chassis into the Temp. & Humidity Chamber
3. Set the thermocouple at the specified places
4. Set up the Temp. & Humidity Chamber - temperature at 25 °C and the humidity at 50%
5. Turn on the Temp. & Humidity Chamber and start testing (for 30 minutes)
6. Check the data acquired from the Data Acquisition device
7. End testing

B. Test Configuration

- 1. Laboratory Equipment**
- 2. Chassis Hardware List**
- 3. Chassis Fan Allocation**
- 4. Chassis Thermal Airflow**
- 5. Chassis Measured Points**
- 6. Thermal Stress Test**
- 7. AIDA64 & FurMark Test**
- 8. Graphics Performance Testing**
- 9. Acoustic Test**

1. Laboratory Equipment



Thermocouple



Sound Level Meter



Thermal Imaging Camera



Temperature Data Acquisition



Temperature & Humidity Chamber

2. Chassis Hardware List

Component	Model
Chassis	View 390 TG
Motherboard	ASUS ROG Maximus Z890 Hero
CPU	Intel Core Ultra 9 285K Processor (TDP 250W)
GPU	ASUS ROG Astral GeForce RTX 5090 32GB GDDR7 OC
RAM	TOUGHRAM Z-ONE RGB DDR5 32G (16G x 2)
SSD	Seagate SSD 120G
PSU	Toughpower GF3 1200W
CPU Cooler	MAGFloe 360 Ultra ARGB Sync
Fans	AIO: SWAFAN EX120 ARGB x 3 (2000rpm) Chassis: CT120 EX ARGB Sync Black x 5 (2000 rpm) (Rear x 2, Bottom x 3)
Software	1. AIDA64 Extreme 2. FurMark ROG Edition V0.9.3.0 3. CPU-Z Ver.2.015 x64 4. Core Temp V1.18
Full load	30 minutes
Camera	Testo 885-2 Thermal Imaging Camera





4. Chassis Thermal Airflow

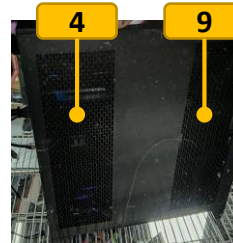
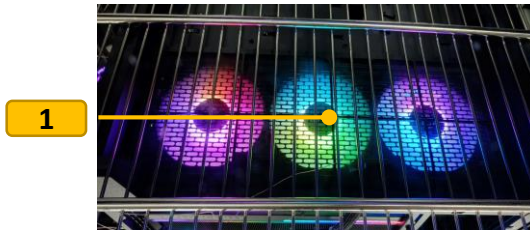
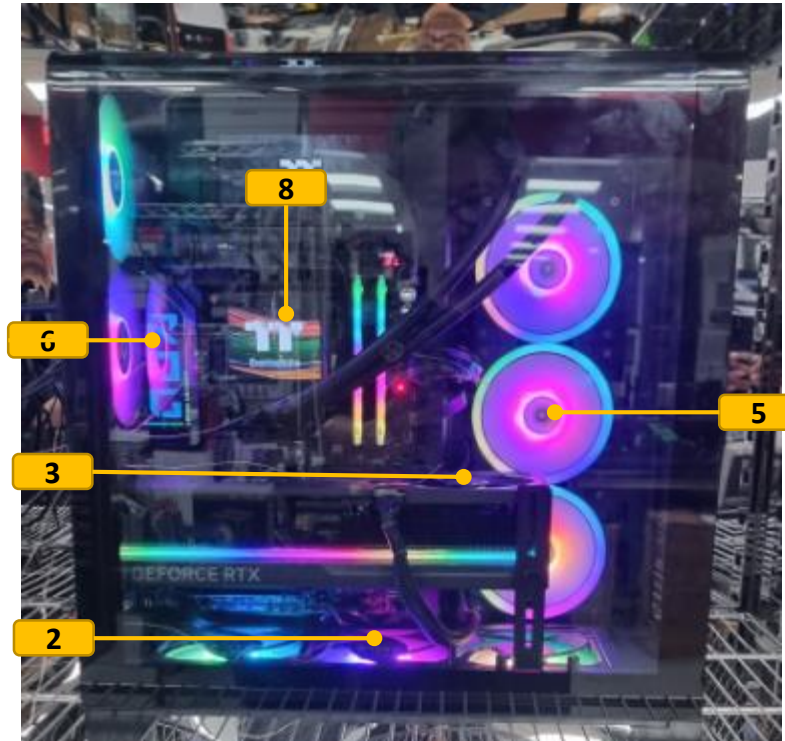
Cool Airflow Inlets (Active)



Hot Airflow Exhausts



5. Chassis Measured Points



Measure Point	Description	Airflow	Thermocouple Number
1	Chassis Bottom Exhaust	Intake	101
2	Chassis Bottom Internal	Intake	102
3	GPU Right Fan	Exhaust	103
4	Chassis Right Internal	Exhaust	104
5	Chassis Right Exhaust	Exhaust	105
6	Chassis Rear Internal	Exhaust	106
7	Chassis Rear Exhaust	Exhaust	107
8	AIO Top Cover	Nature	108
9	PSU Right	Intake	109
10	PSU Rear	Exhaust	110



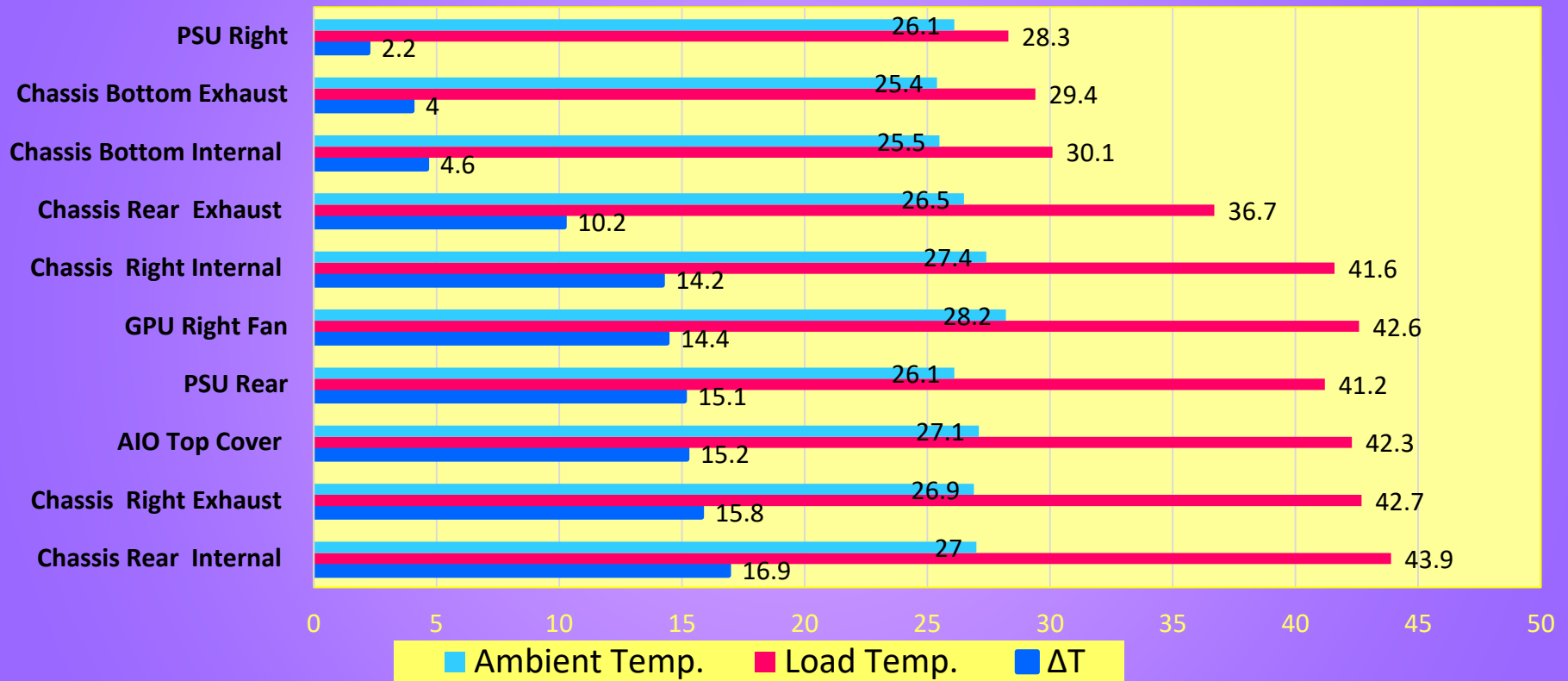
Reference image

- Setting up the chamber temperature and humidity
- Temperature: 25°C
- Humidity: 50%
- Recording Data



Temperature Data Recoding

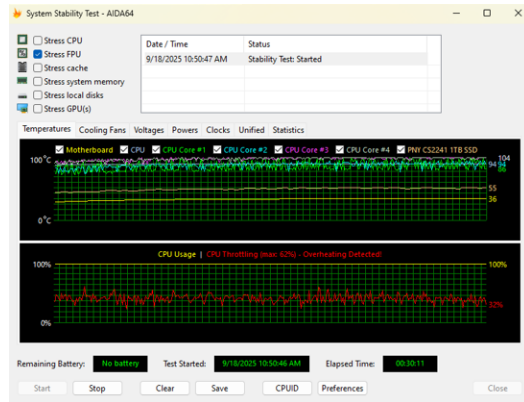
System Thermal Stress Test View390 TG



We expected to see higher temperature at the exhaust points and relatively lower temperature at the intake positions. The highest temperature was found at the **AIO exhaust**, which is reasonable given the CPU was running at full load. Most of the intake positions recorded a temperature lower than **43°C** since they were drawing air from environment. Two critical positions we were looking at are **NO. 103 GPU Right Fan** and **NO. 108 AIO Cover**, which were drawing internal air to cool two of the most important components.

7. AIDA64 & FurMark Test

We used **AIDA64 Extreme** (stress FPU) and **FurMark ROG Edition** (resolution: 3840 x 2160) to push **100% load** on the CPU and GPU for 30 minutes.



AIDA64 Extreme



FurMark

Date	9/18/2025
Time (HH:MM)	2:17 PM
CPU Clock	800 MHz
Memory Clock	2401 MHz
Motherboard Name	Asus ROG Maximus Z890 Hero
BIOS Version	1101
Free Memory	25716 MB
GPU1 Clock	637 MHz
Motherboard	27°C
CPU	32°C
CPU Package	40°C
GPU1	29°C
CPU	1988 RPM
CPU OPT	2045 RPM
Chassis #1	3089 RPM
AIO Pump	1982 RPM
GPU1	0 RPM
CPU Core	1.385 V
GPU1	0.855 V
CPU Package	27.96 W
GPU1	29.00 W
GPU1 TDP%	5%

Idle

Date	9/18/2025
Time (HH:MM)	2:50 PM
CPU Clock	5301 MHz
Memory Clock	2400 MHz
Motherboard Name	Asus ROG Maximus Z890 Hero
BIOS Version	1101
Free Memory	25283 MB
GPU1 Clock	2797 MHz
Motherboard	34°C
CPU	93°C
CPU Package	104°C
GPU1	72°C
CPU	1991 RPM
CPU OPT	2017 RPM
Chassis #1	3000 RPM
AIO Pump	1976 RPM
GPU1	2330 RPM
CPU Core	1.421 V
GPU1	1.035 V
CPU Package	250.06 W
GPU1	623.04 W
GPU1 TDP%	104%

Full load

We used **AIDA64 Extreme** (stress FPU) and **FurMark ROG Edition** (resolution: 3840 x 2160) to push **100% load** on the CPU and GPU for 30 minutes.

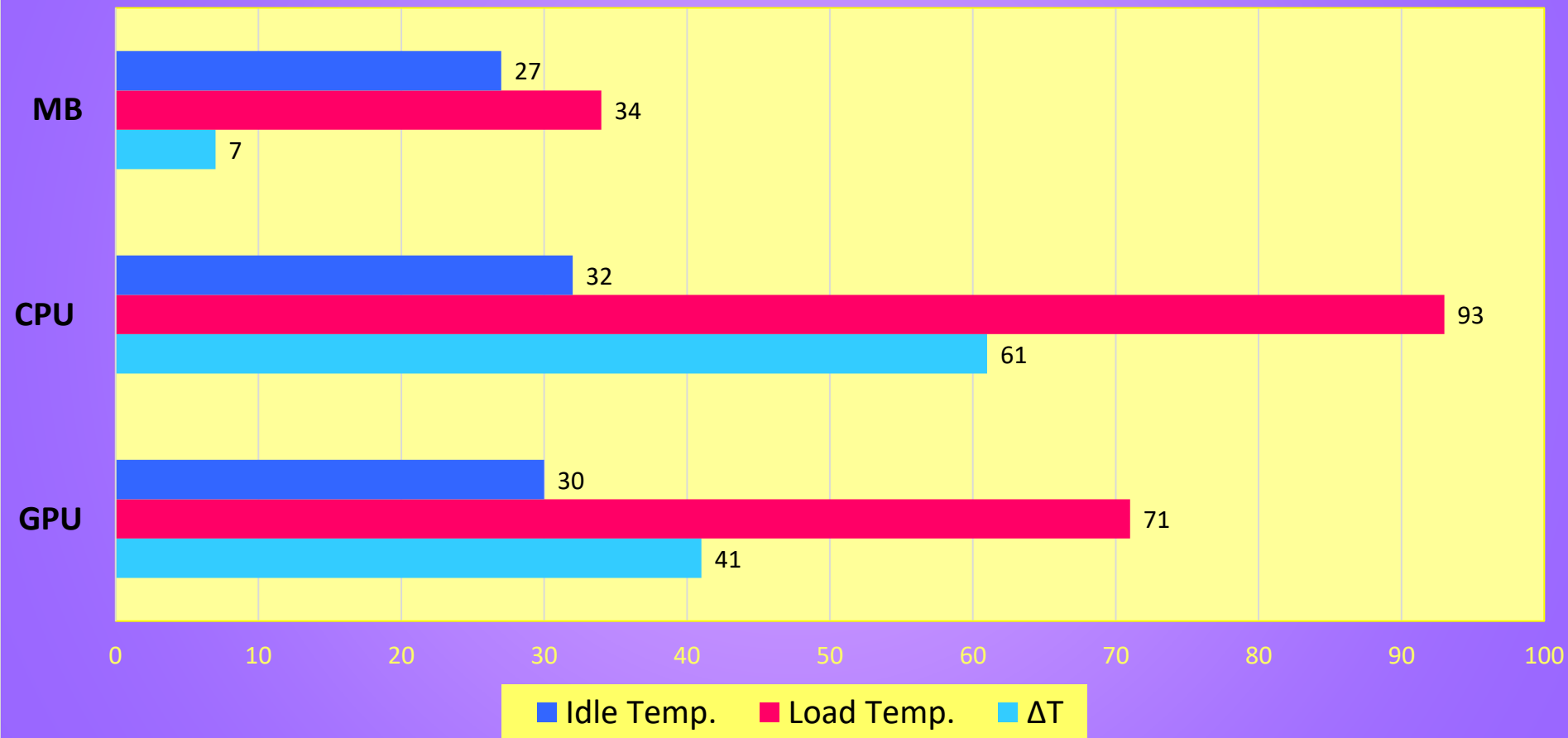


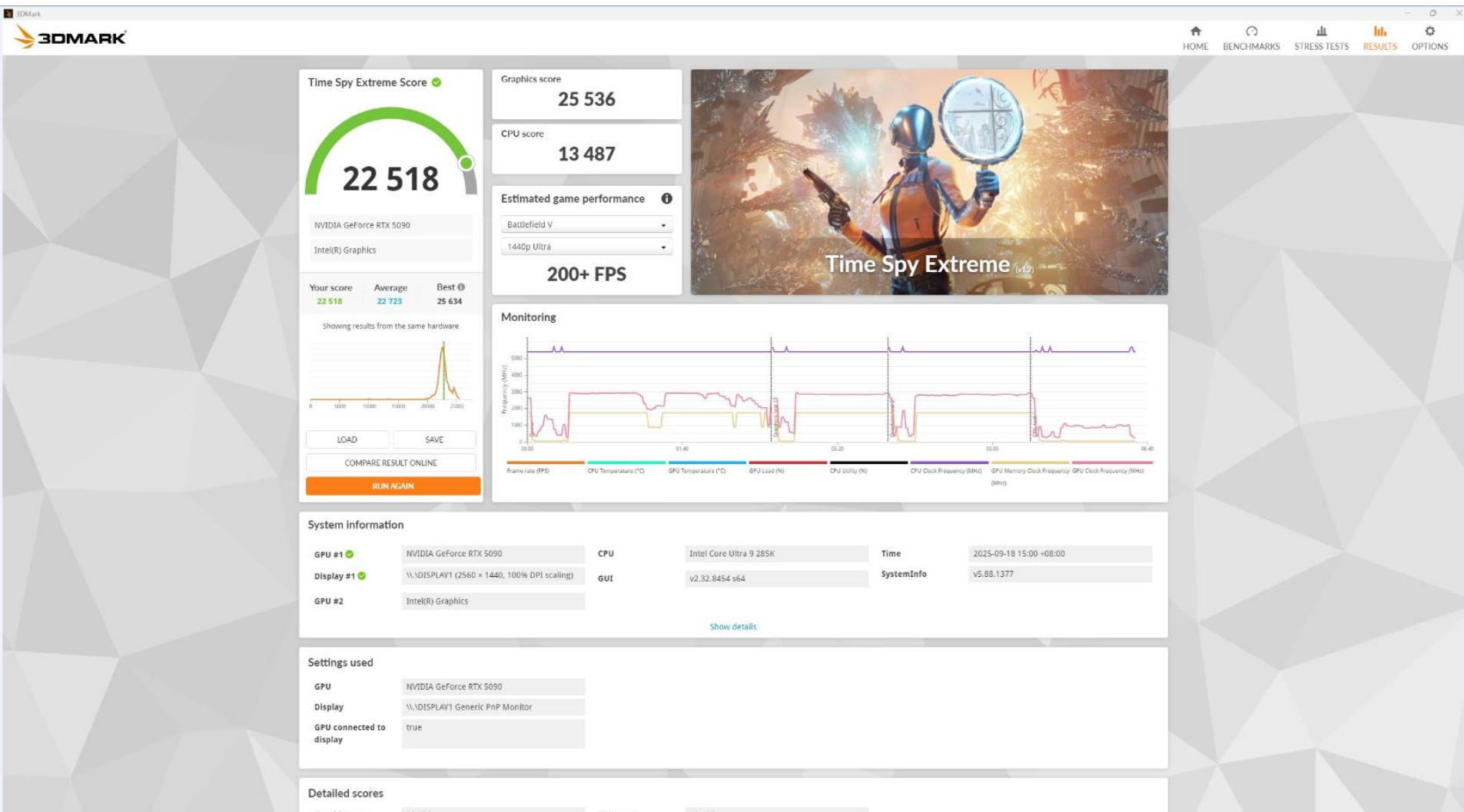
Idle



Full load

CPU & GPU Thermal Stress Test View390 TG





9. Acoustic Sound Pressure Level Test

Test Environment : **Thermaltake Taipei Office**

Test Model: View 390 TG

Test Ambience: **25 °C (Temperature) / 57% R.H.(Relative Humidity)**

Microphone position: **50 cm / in front of PC system**

Background Noise : **35.4 dBA.**



Microphone position



Test Ambience

9. Acoustic Sound Pressure Level Test

Fan Speed 550rpm – 35.7dBA



Fan Speed 560rpm – 36.3dBA



Fan Speed 780rpm – 36.9dBA



Fan Speed 2000rpm – 49.0dBA



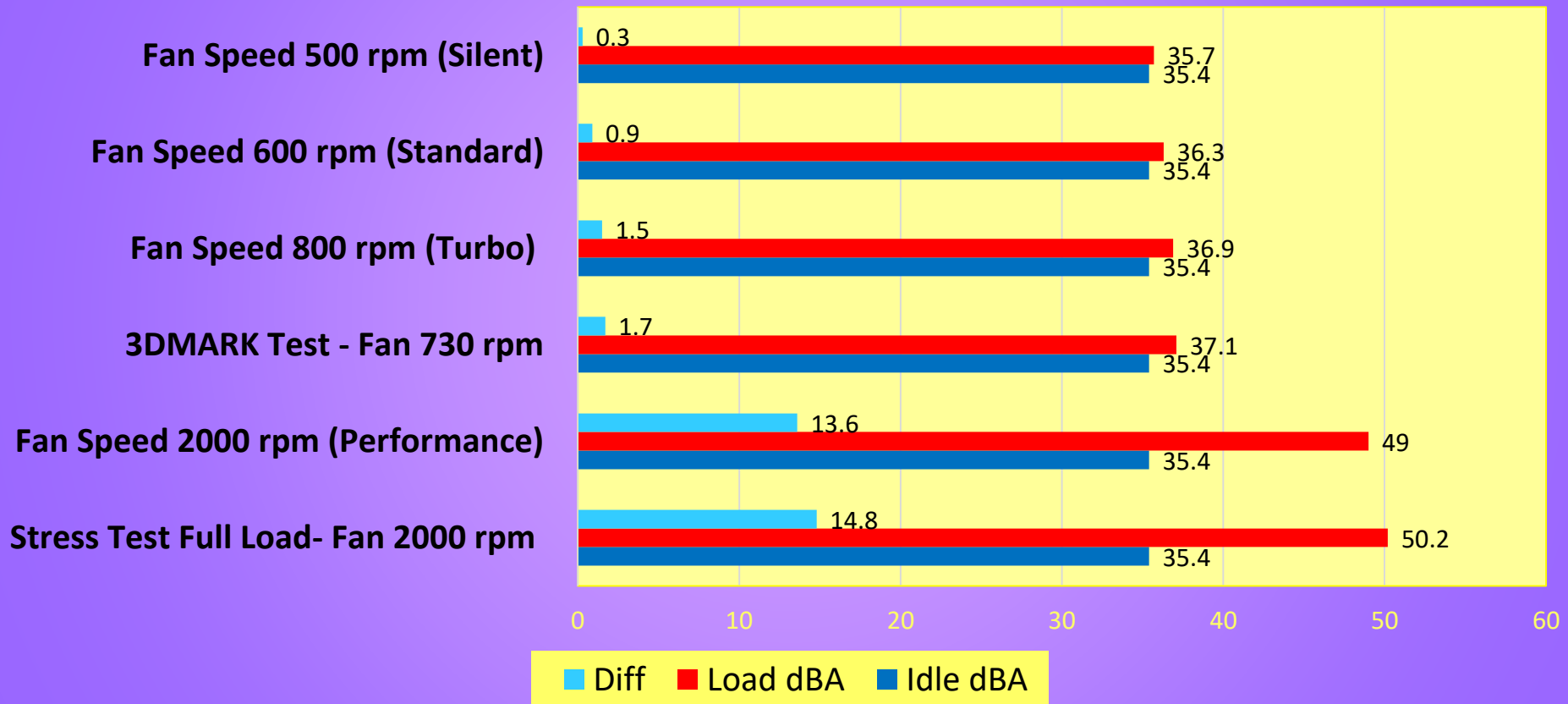
Date	9/19/2025
Time (HH:MM)	3:31 PM
CPU Clock	800 MHz
Memory Clock	2400 MHz
Motherboard Name	Asus ROG Maximus Z890 Hero
BIOS Version	1101
Free Memory	24814 MB
GPU1 Clock	780 MHz
Motherboard	28°C
CPU	34°C
CPU Package	42°C
GPU1	33°C
CPU	516 RPM
CPU OPT	585 RPM
Chassis #1	1210 RPM
AIO Pump	1618 RPM
GPU1	0 RPM
CPU Core	1.288 V
GPU1	0.945 V
CPU Package	20.43 W
GPU1	28.35 W
GPU1 TDP%	5%

Date	9/19/2025
Time (HH:MM)	3:33 PM
CPU Clock	600 MHz
Memory Clock	2401 MHz
Motherboard Name	Asus ROG Maximus Z890 Hero
BIOS Version	1101
Free Memory	24995 MB
GPU1 Clock	247 MHz
Motherboard	29°C
CPU	34°C
CPU Package	41°C
GPU1	32°C
CPU	599 RPM
CPU OPT	601 RPM
Chassis #1	1424 RPM
AIO Pump	1622 RPM
GPU1	0 RPM
CPU Core	1.394 V
GPU1	0.805 V
CPU Package	19.56 W
GPU1	20.11 W
GPU1 TDP%	3%

Date	9/19/2025
Time (HH:MM)	3:34 PM
CPU Clock	800 MHz
Memory Clock	2401 MHz
Motherboard Name	Asus ROG Maximus Z890 Hero
BIOS Version	1101
Free Memory	24965 MB
GPU1 Clock	435 MHz
Motherboard	29°C
CPU	35°C
CPU Package	43°C
GPU1	32°C
CPU	797 RPM
CPU OPT	909 RPM
Chassis #1	1728 RPM
AIO Pump	1741 RPM
GPU1	0 RPM
CPU Core	1.385 V
GPU1	0.815 V
CPU Package	23.42 W
GPU1	25.86 W
GPU1 TDP%	4%

Date	9/19/2025
Time (HH:MM)	3:36 PM
CPU Clock	800 MHz
Memory Clock	2400 MHz
Motherboard Name	Asus ROG Maximus Z890 Hero
BIOS Version	1101
Free Memory	24962 MB
GPU1 Clock	405 MHz
Motherboard	28°C
CPU	34°C
CPU Package	40°C
GPU1	31°C
CPU	1985 RPM
CPU OPT	2084 RPM
Chassis #1	3191 RPM
AIO Pump	1979 RPM
GPU1	0 RPM
CPU Core	1.412 V
GPU1	0.815 V
CPU Package	20.34 W
GPU1	23.25 W
GPU1 TDP%	4%

Acoustic Sound Pressure Level Test - View390 TG

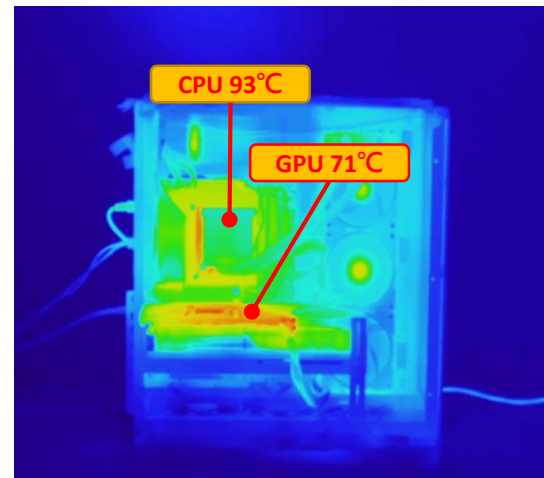


C. Conclusion

Idle

Left View

Full Load



AIDA64 Extreme (stress FPU) and **FurMark ROG Edition** (resolution: 3840 x 2160) to push **100% load** on the CPU and GPU for 30 minutes.

-Intel Core Ultra 9 285K / CPU Temp. (Max) : 93°C (TDP 250W)

-ASUS ROG Astral GeForce RTX® 5090 OC / GPU Temp. (Max) : 71°C

Through the thermal image, we found that the internal heat was effectively directed to designated exhaustion vents, keeping the system operating at a cooler temperature. This finding validates how efficient The View 600 TG is regarding cooling performance.



thermaltake

Thank you!