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A great diversity of interconnect & thermal solutions

Thermal Solution Test for Nvidia RTX series

Thermal-Design Team: Bryan Lin,
Ken Chen
Dennis Chang

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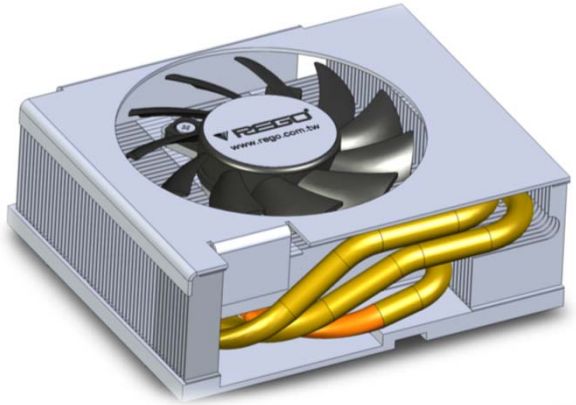
Purpose:

To better fit various MXM modules needed by customers with REGO standard cooler from adopting different conditions setting as expected.

Method:

To make it common-used, available in matching with different profiled bases for satisfying RTX A4500 and RTX 5000.



Conditions:

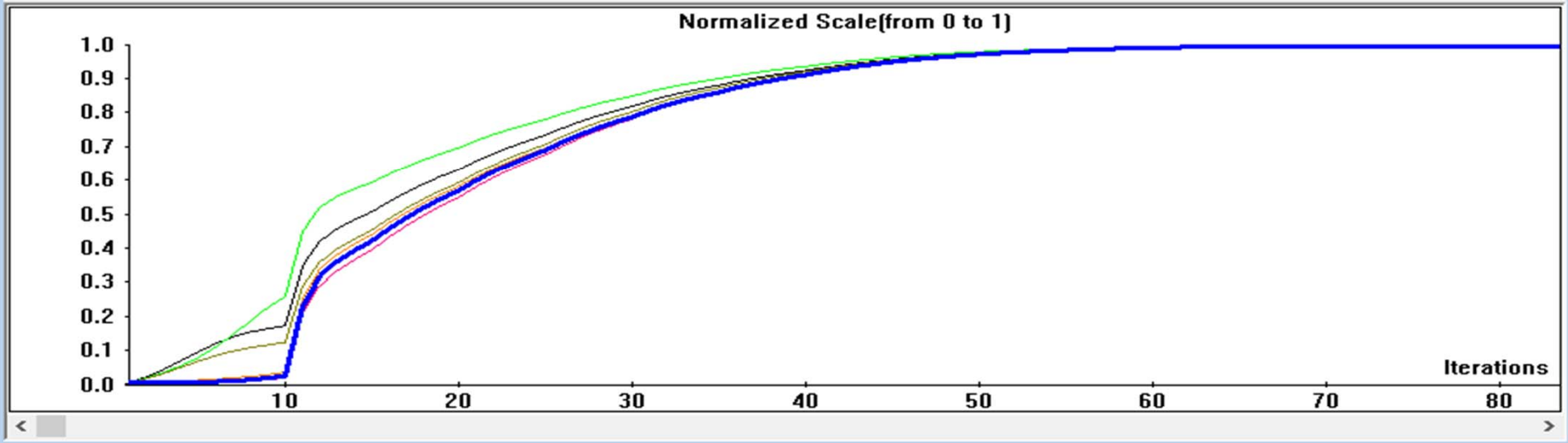
1. **TDP** = 110/ 115 W
2. **Ta** = 50°C
3. **Tcmax shall be < 89**°C
4. **Thermal Module -** AL Stacked fins, with heat pipes and thermal grease (7762), embedded with frameless fan 70x10mm.

Analysis – Tcase for RTX A4500)

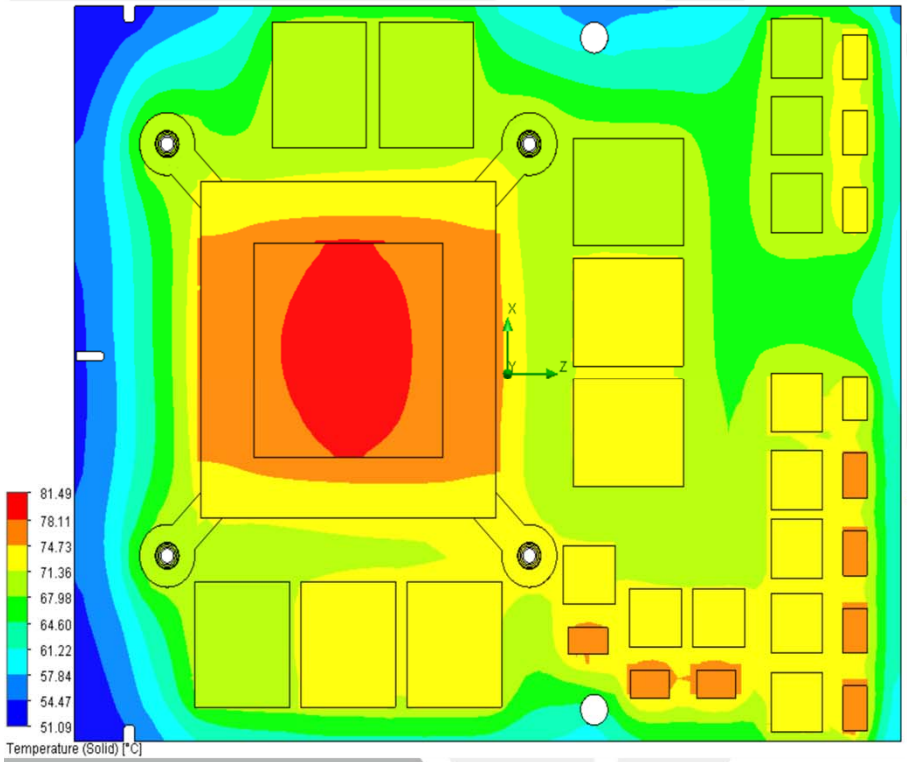
The steady T_{C1} in average is **81.48°C** < Tcmax 89°C， **PASSED**

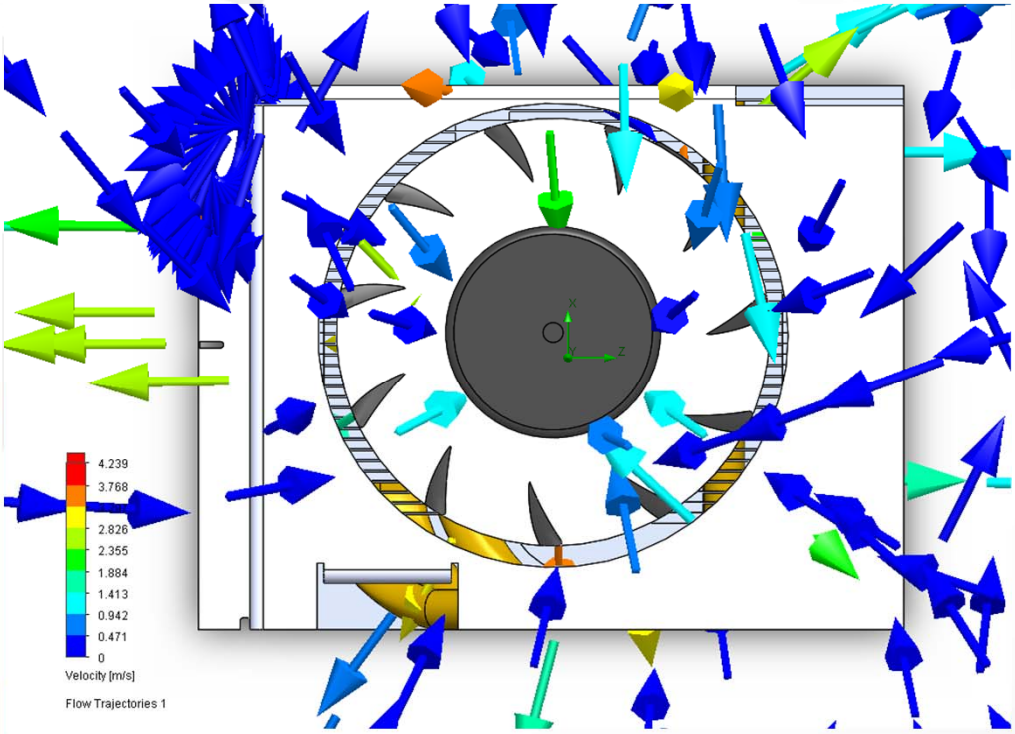
Goal plot 1

Name	Current Value	Progress	Criterion	Comment
VG Max Temperature (Solid) FB Power Chock	72.8577 °C		0.691201 °C	
VG Max Temperature (Solid) FB Power Mosfet	77.4247 °C		0.783755 °C	
VG Max Temperature (Solid) GDDR6	72.5374 °C	Achieved (IT = 104)	0.678718 °C	Checking criteria
VG Max Temperature (Solid) GPU	81.4898 °C	Achieved (IT = 104)	0.907149 °C	Checking criteria
VG Max Temperature (Solid) NVVDD Power Chock	73.1355 °C		0.699929 °C	
VG Max Temperature (Solid) NVVDD Power Mosfet	76.0988 °C		0.758644 °C	



Analysis – Thermal Ranging & Air flow(RTX-A4500)



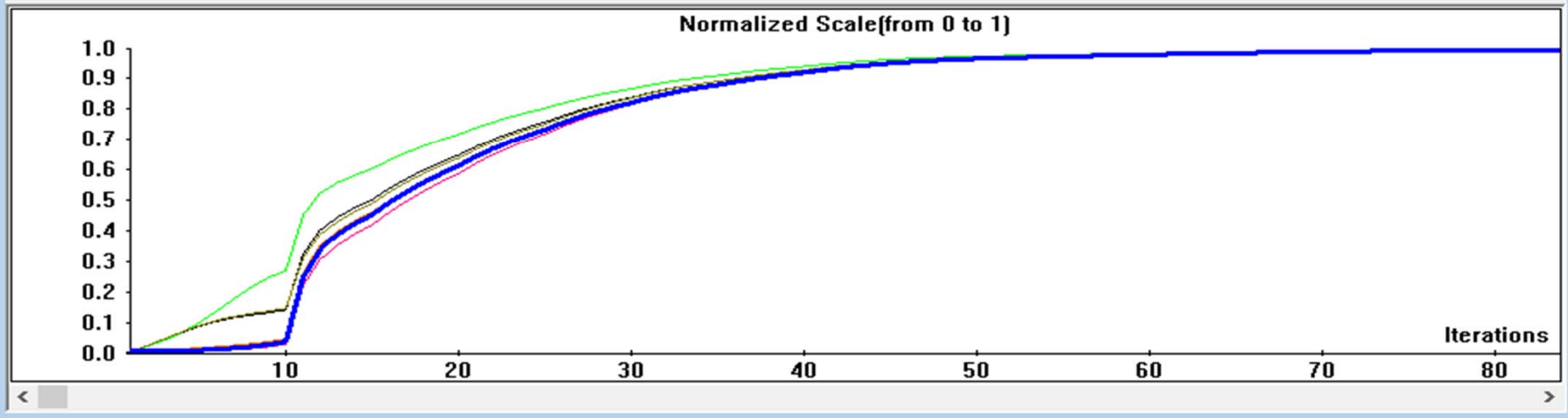


Analysis – Tcase for RTX 5000)

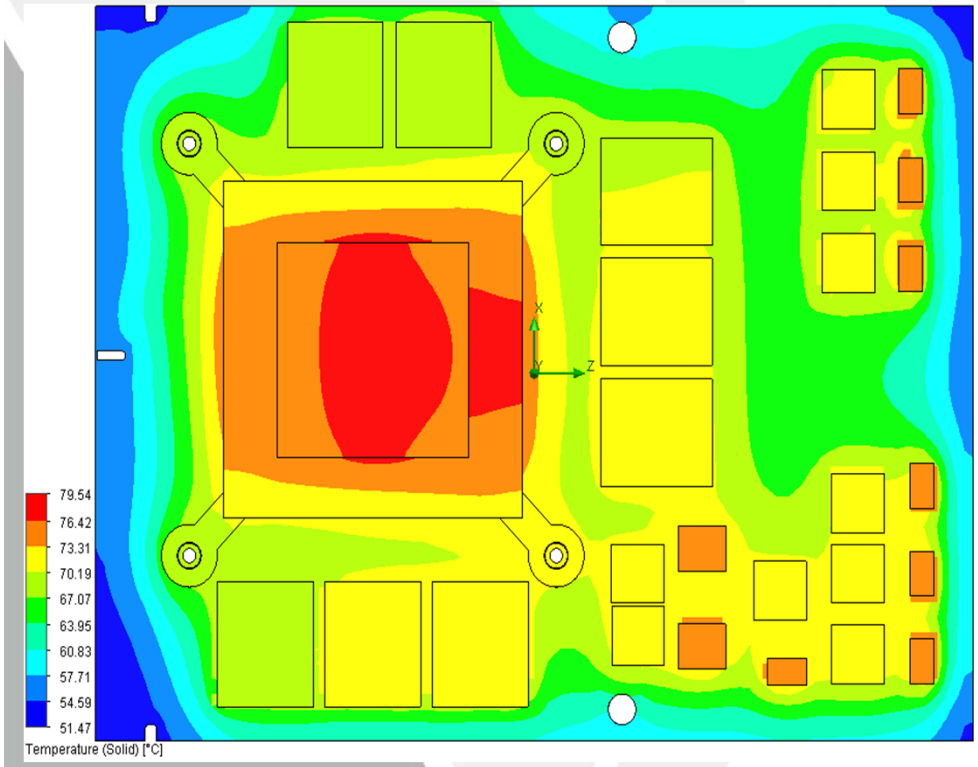
The steady Tc1 in average is **79.54°C** < Tcmax 89°C， **PASSED**

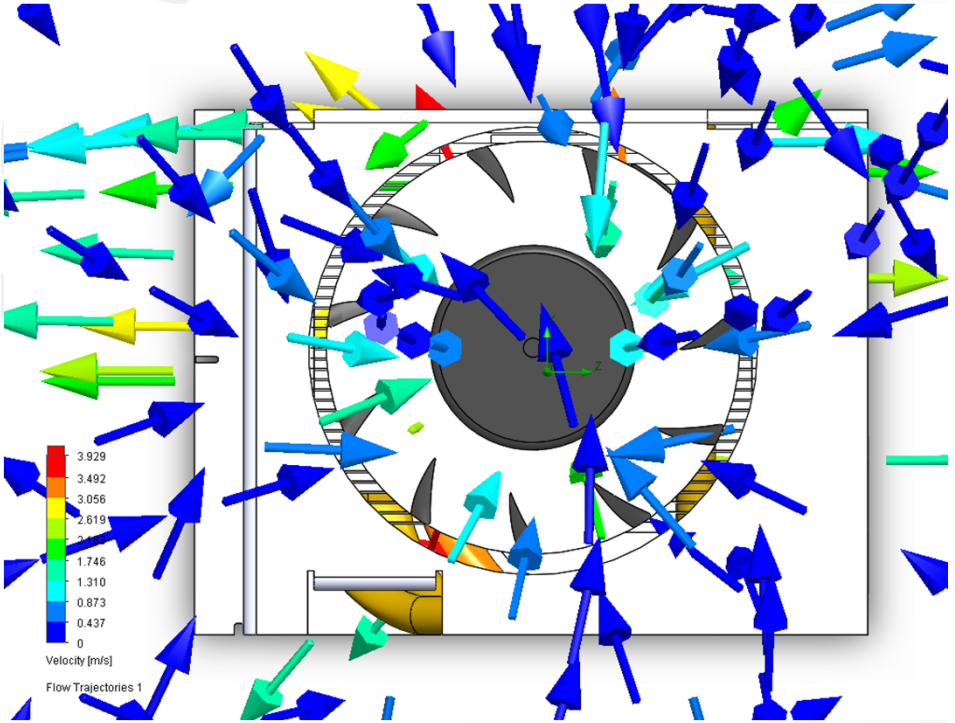
Goal plot 1

Name	Current Value	Progress	Criterion	Comment
VG Max Temperature (Solid) FB Power Chock	71.5907 °C		0.647101 °C	
VG Max Temperature (Solid) FB Power Mosfet	74.718 °C		0.699444 °C	
VG Max Temperature (Solid) GDDR6	71.2345 °C	Achieved (IT = 97)	0.632859 °C	Checking criteria
VG Max Temperature (Solid) GPU	79.5438 °C	Achieved (IT = 93)	0.840692 °C	Checking criteria
VG Max Temperature (Solid) NVVDD Power Chock	71.7392 °C		0.652013 °C	
VG Max Temperature (Solid) NVVDD Power Mosfet	75.0422 °C		0.708004 °C	



Analysis – Thermal Ranging & Air flow(RTX-5000)





Conclusion

Considering the frequently asked TDP and operating temperature by MXM modules for GPU applications, here're the related test & analysis made to ensure the sufficient thermal performance to satisfy it as expected by our customers.

The thermal module has not only met the demand by Nvidia RTX-A4500, RTX-5000, but also available for semi-customizing profiled bases to satisfy rest in RTX series that is with different multi heat source arrangement.

Welcome to reach our sales teams for further information if any question or request.

Thank you.
REGO Thermal Design Team

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THANK YOU!

OUR TEAM IS COMMITTED TO PROVIDE QUICK RESPONSE AND PRO-ACTIVELY ASSIST OUR CUSTOMERS

THERMAL@REGO.COM.TW