



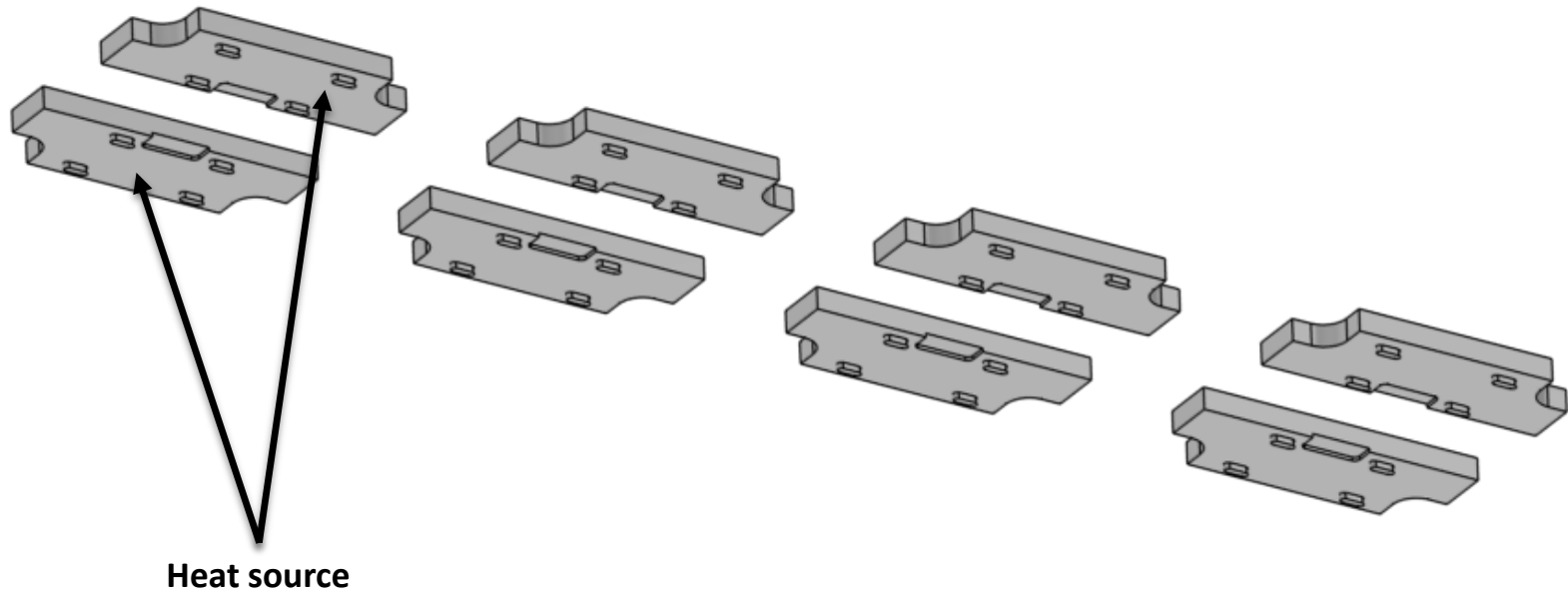
PCIe400 Thermal Model

Jean-Marc NAPPA on behalf of the LAPP team

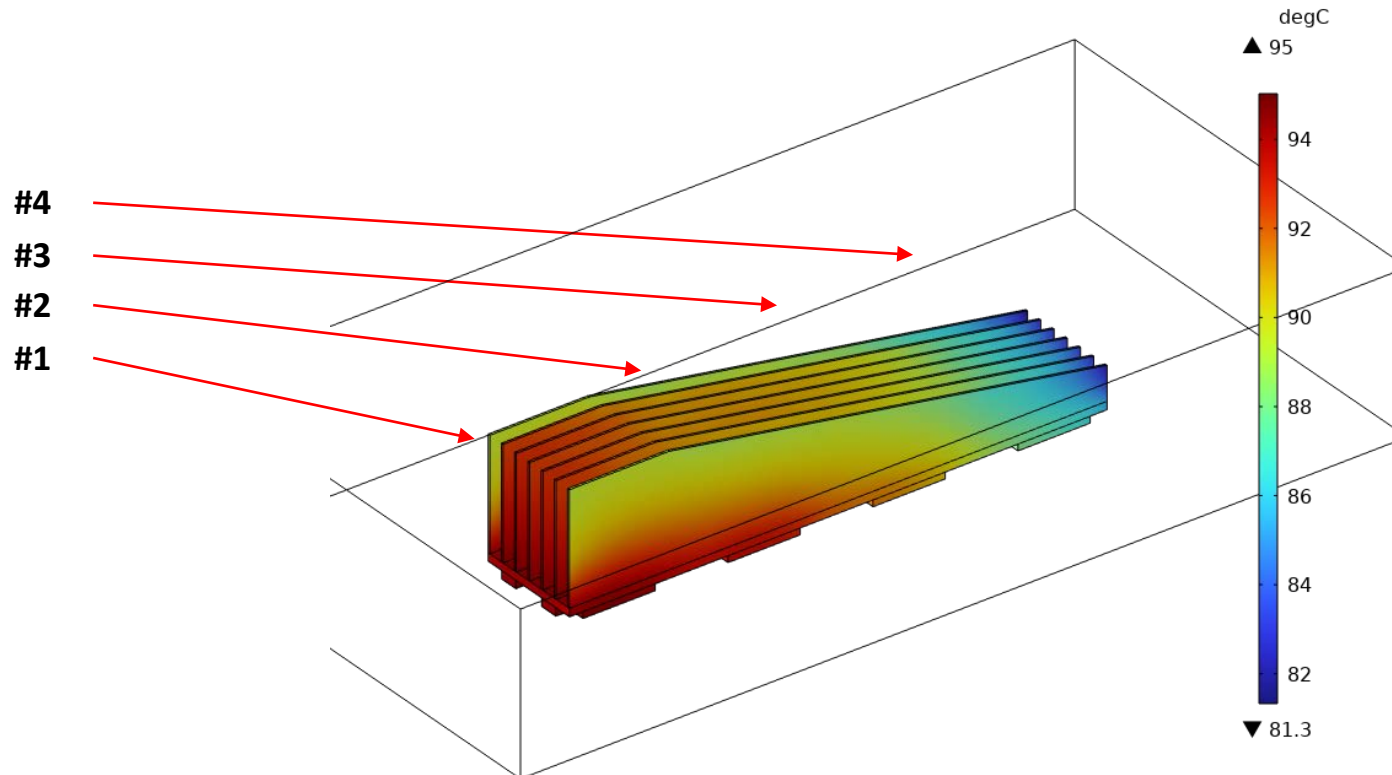


Z-Adapter Heatsink

- Matériaux : Aluminum
- Heat source : 5 W
- Tamb : 38 °C

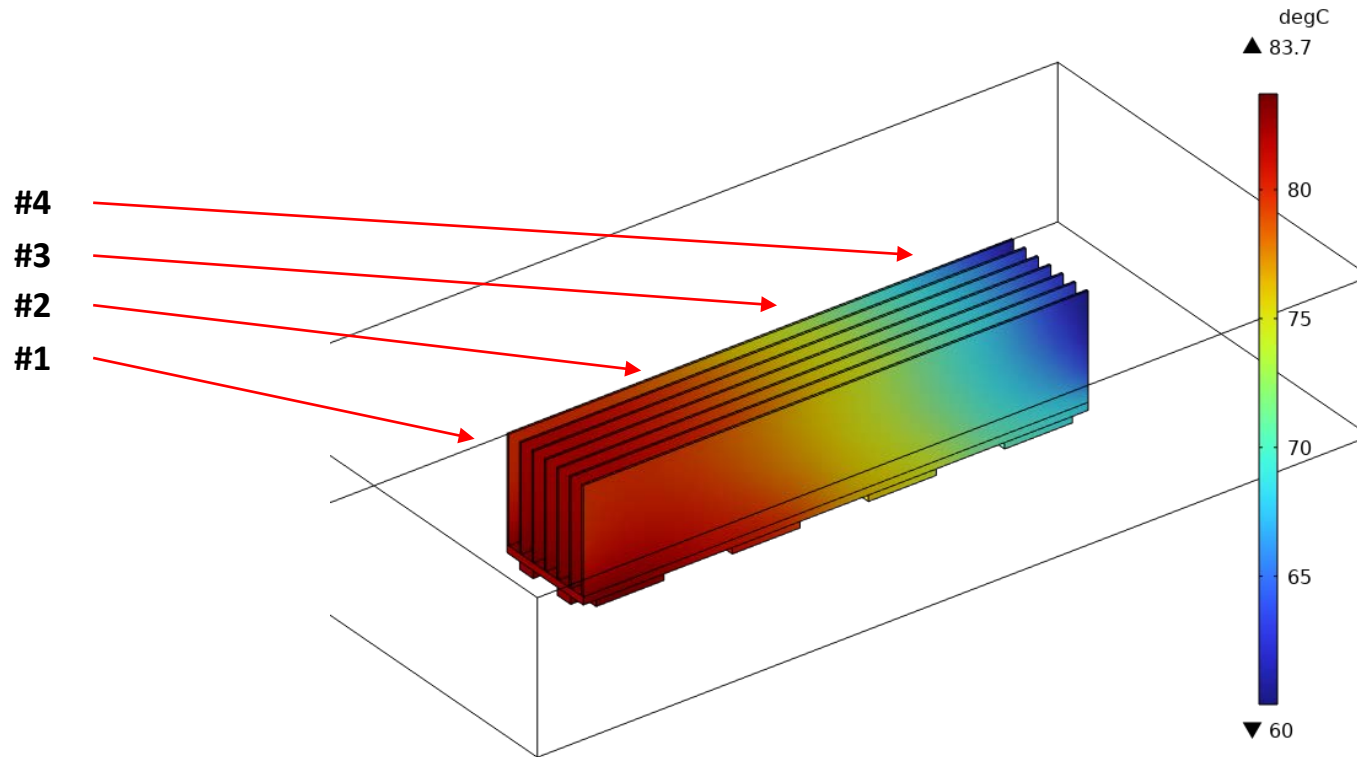


Z-Adapter Heatsink & Fin Heatsink Bevel (121.5x24.4x25mm)



U0 (m/s)	T1_moy (degC)	T2_moy (degC)	T3_moy (degC)	T4_moy (degC)
1.0000	94.800	93.561	91.396	87.370
2.0000	67.621	66.544	64.841	61.695
3.0000	58.542	57.761	56.456	53.740

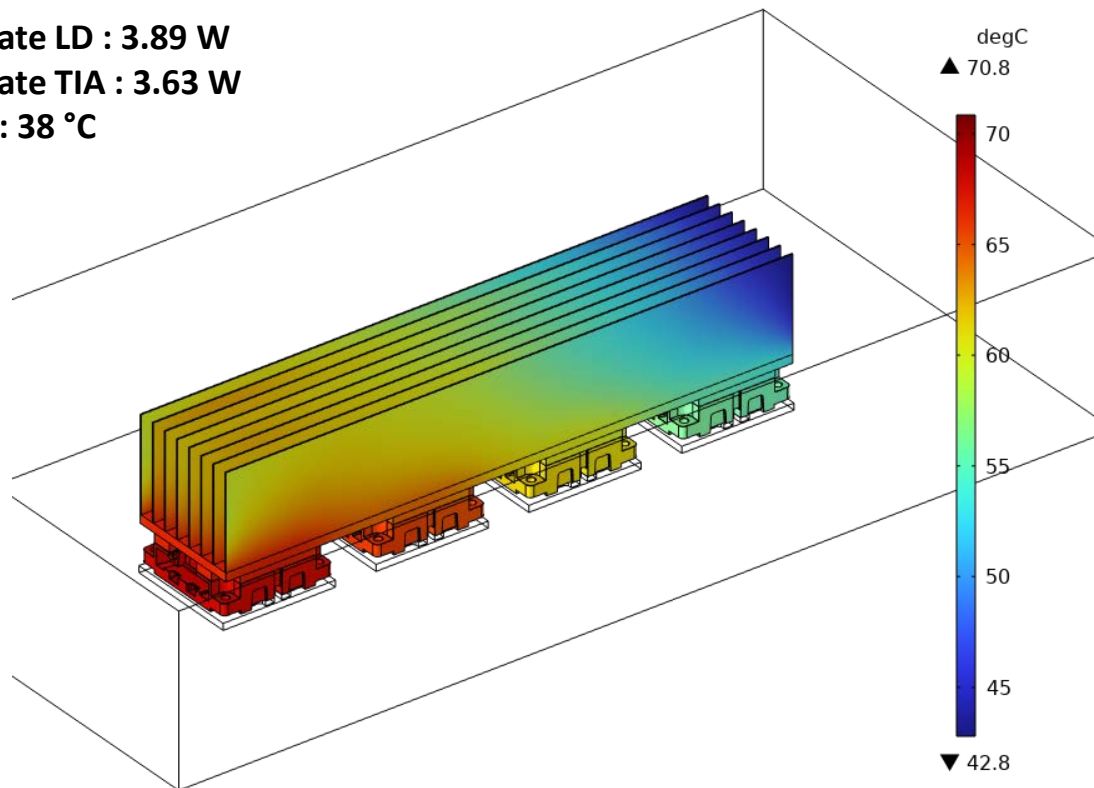
Z-Adapter Heatsink & Fin Heatsink (121.5x24.4x25mm)



U0 (m/s)	T1_moy (degC)	T2_moy (degC)	T3_moy (degC)	T4_moy (degC)
1.0000	83.372	80.450	75.404	69.680
2.0000	62.435	60.687	57.474	53.413
3.0000	55.483	54.482	52.117	48.717

OBT & Fin Heatsink (121.5x24.4x25mm)

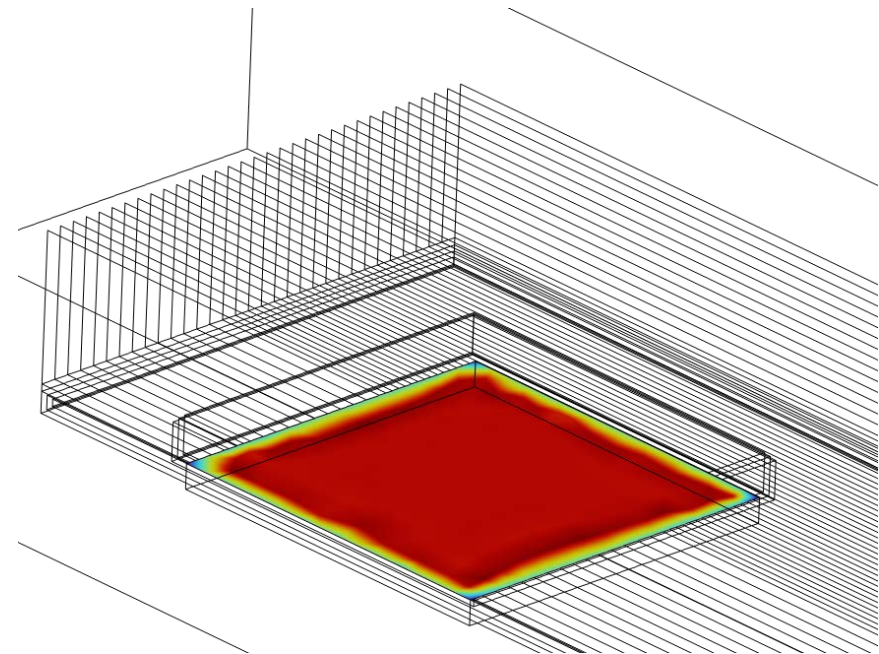
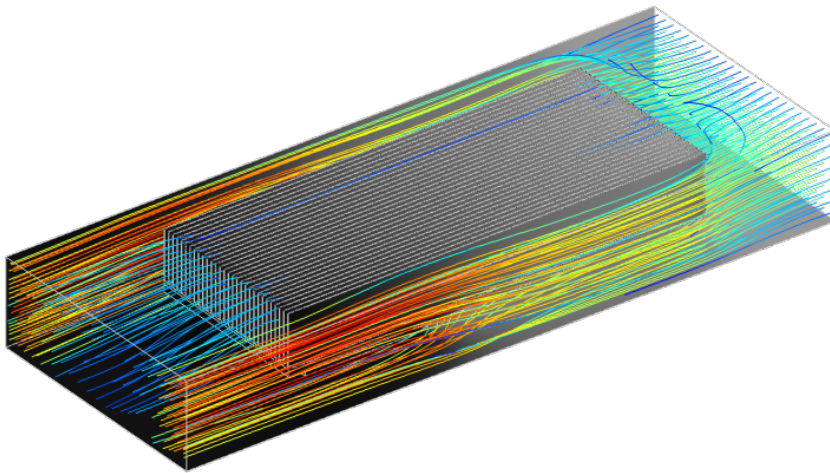
- Heat rate LD : 3.89 W
- Heat rate TIA : 3.63 W
- Tamb : 38 °C



U0 (m/s)	T1_Housing _moy (degC)	T2_Housing _moy (degC)	T3_Housing _moy (degC)	T4_Housing _moy (degC)
1.0000	115.68	109.34	98.731	87.301
2.0000	80.088	76.257	70.031	62.987
3.0000	68.369	66.014	61.643	56.163

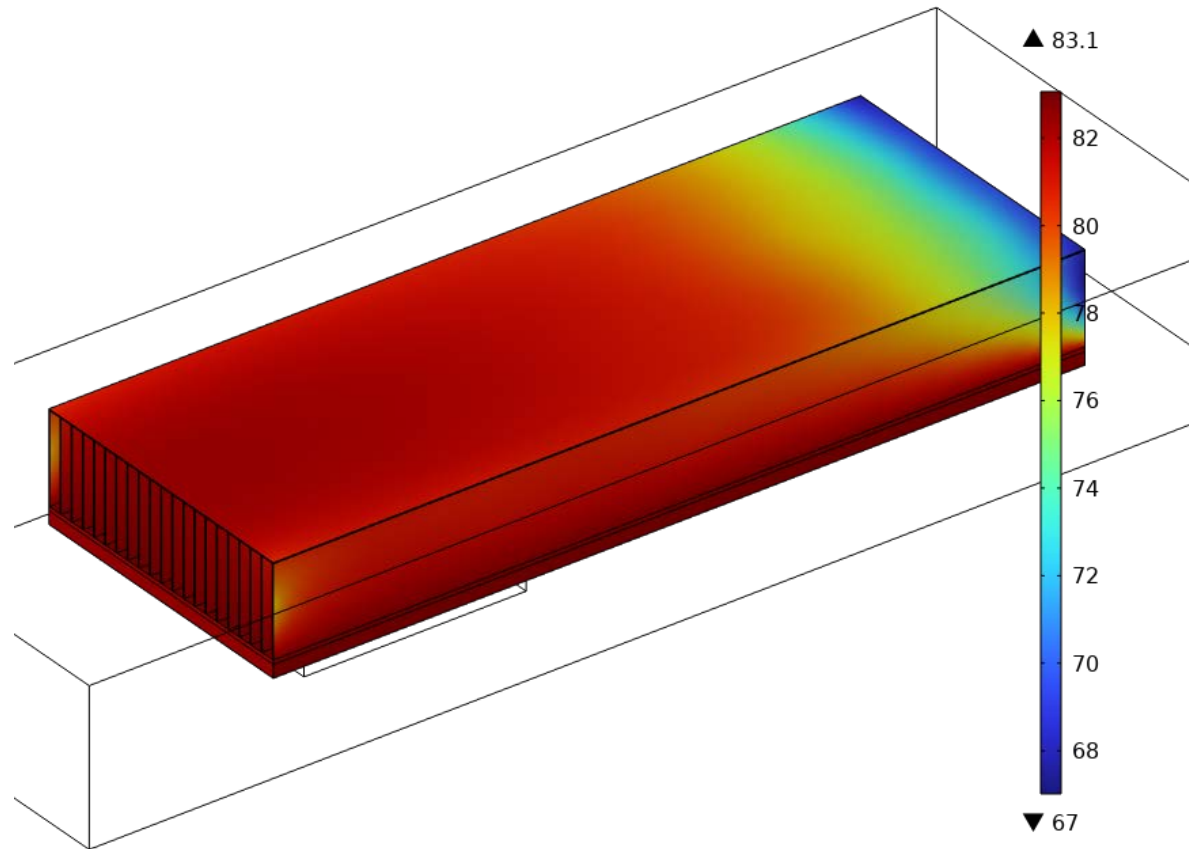
Different Resultats Simulation PCIe400

- FPGA 52x49x3.5mm
- Volume Air 275x100x35mm
- Air Flow : 1 m/s
- Heat source : 85 W
- Thermal Impedance $R_{\theta J-C}$: 0.031 °C/W
- Thermal Impedance $R_{\theta C-S}$: 0.007 °C/W



PCle400 & Shell

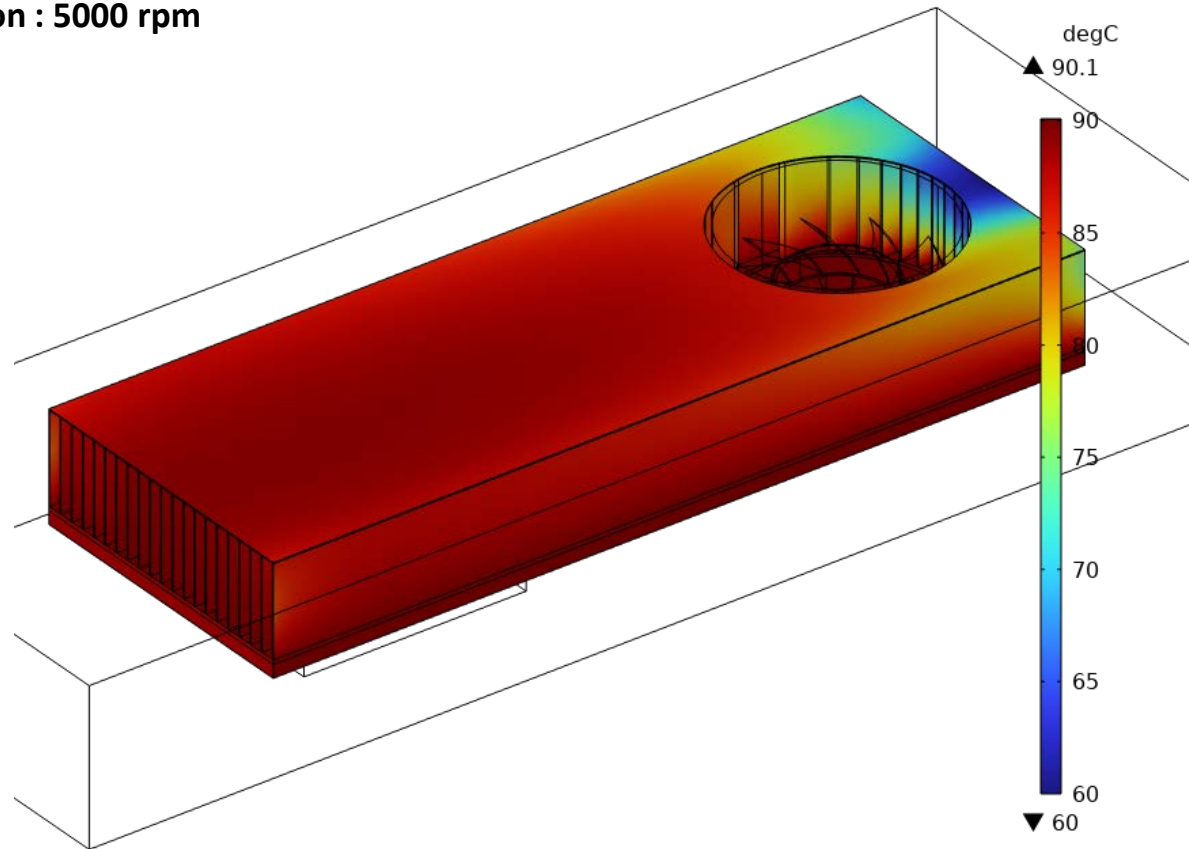
- Vapor Chamber 70x190x3mm with Encoche 56.3x52x5.4mm (Copper)
- Heat Sink 70x190x22mm with Fins 21x0.25mm (Aluminum)



T_moy (degC)	RiseT_moy (K)	R_sa_moy (degC/W)	Tj_moy (degC)
83.046	45.046	0.52995	86.276

PCle400 & Shell & Fan (Dynatron T052)

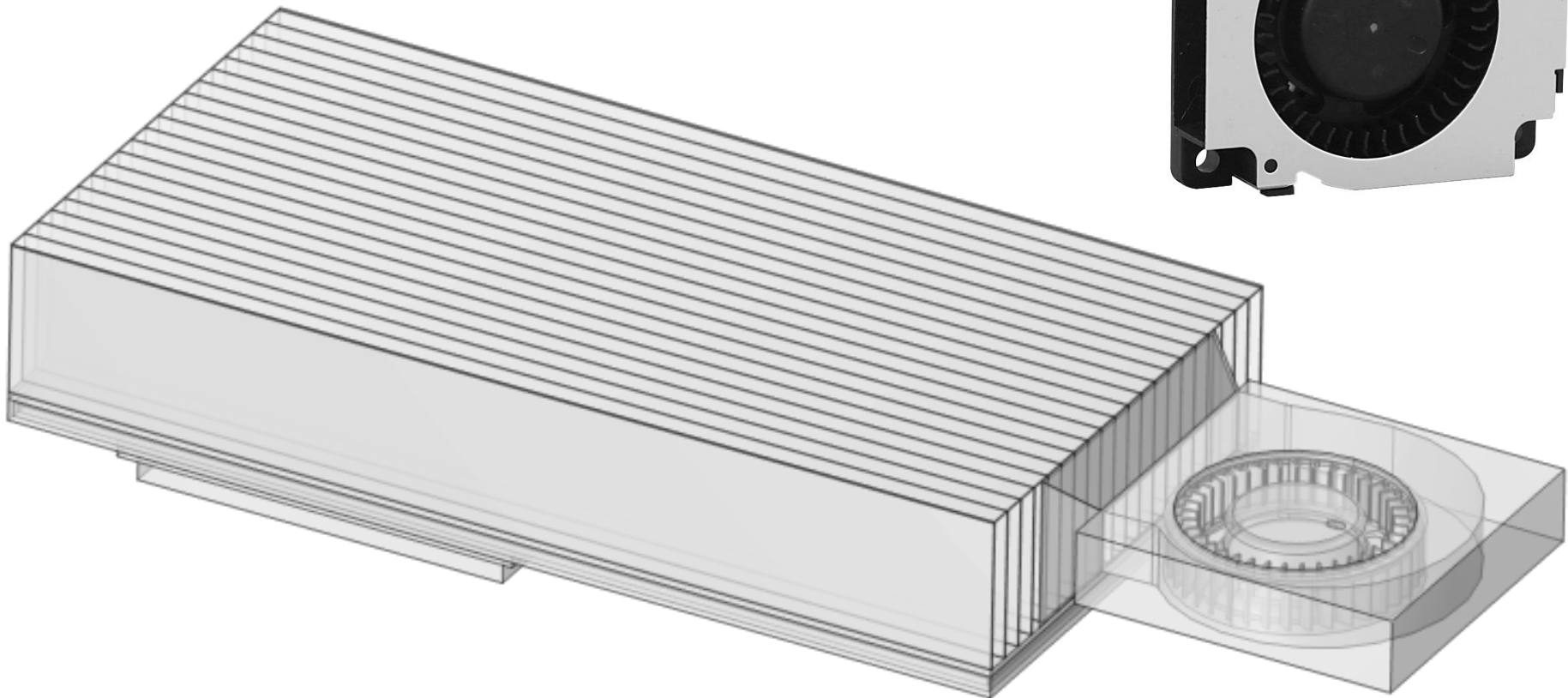
- Vapor Chamber 70x190x3mm with Encoche 56.3x52x5.4mm (Copper)
- Heat Sink 70x190x22mm with Fins 21x0.25mm (Aluminum)
- Revolution : 5000 rpm



T_moy (degC)	RiseT_moy (K)	R_sa_moy (degC/W)	Tj_moy (degC)
90.074	52.074	0.61264	93.304

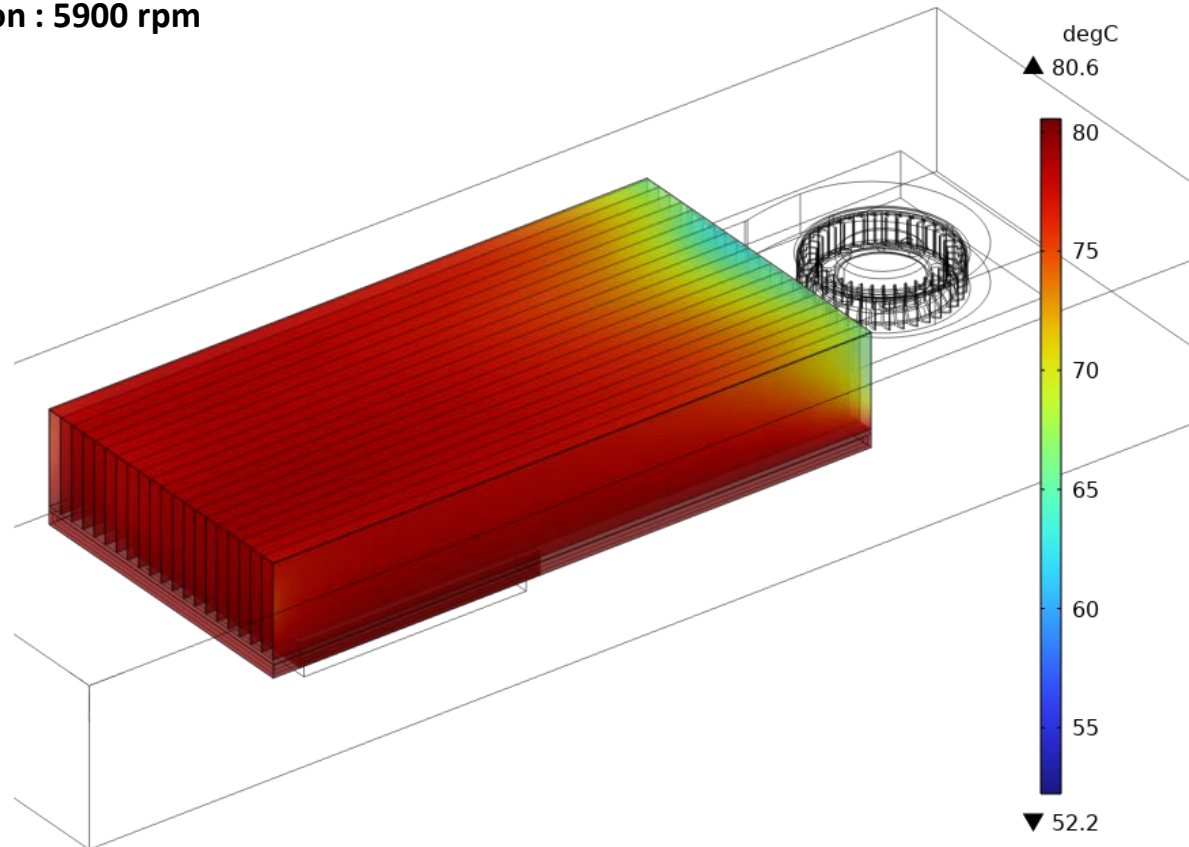
PCIe400 & Shell & Blower (Delta BFB04512HHA-C)

- Vapor Chamber 70x140x3mm with Encoche 56.3x52x5.4mm (Copper)
- Heat Sink 70x140x22mm with Fins 21x0.25mm (Aluminum)
- Revolution : 5900 rpm



PCIe400 & Shell & Blower (Delta BFB04512HHA-C)

- Vapor Chamber 70x140x3mm with Encoche 56.3x52x5.4mm (Copper)
- Heat Sink 70x140x22mm with Fins 21x0.25mm (Aluminum)
- Revolution : 5900 rpm



T_moy (degC)	RiseT_moy (K)	R_sa_moy (degC/W)	Tj_moy (degC)
80.534	42.534	0.50040	83.764

PCIe400 & Shell & Blower (Delta BFB04512HHA-C)

- Vapor Chamber 70x140x3mm with Encoche 56.3x52x5.4mm (Copper)
- Heat Sink 70x140x22mm with Fins 21x0.25mm (Aluminum)
- Revolution : 5900 rpm

