## **Appendix N**

## Thermal Modelling of EarthCARE Instruments' Electronics Boxes

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## Abstract

The EarthCARE spacecraft has electronics boxes for the ATLID, BBR and MSI instruments which were produced by TAS in the UK and STFC RAL Space. The ATLID ACDM was thermally tested. It was found that the thermal design and ESATAN model needed updates to help components meet their derated limits. Various aspects of electronics design were investigated, looking at similar units (such as Cryocooler Electronics) and consulting with other engineers. Attempts were made to auto-generate more detailed 3D FE structure sub-models rapidly to improve predictions.









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- Heat sinks thermal adhesives, Cho-therm, copped
- Straps copper, aluminium, Annealed Pyrolitic Graphite (APG)



