

Proposal Number **BL-DC-20201013**

Customer Name ISTITUTO DI RADIOASTRONOMIA, BOLOGNA

Project Name Cooling solution for BIRALES back-end

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Introduction

AAVID provides engineering design and prototype services across a wide array of engineering disciplines and markets including thermal, mechanical, electronic and industrial design.

Project Overview

The INSTITUTE OF RADIOASTRONOMY of BOLOGNA needs a Cooling solution for BIRALES back-end within the 2-3SST2016-17 project (BIRALES is one of the italian sensors partecipping to the european SST network for the monitoring of space debris). The project will be developed through different stages, in order to design a heatpipe system able to manage the power loss of every pcb. The INSTITUTE OF RADIOASTRONOMY of BOLOGNA needs a Cooling solution for BIRALES back-end within the 2-3SST2016-17 project (BIRALES is one of the italian sensors partecipping to the european SST network for the monitoring of space debris). The project will be developed through different stages, in order to design a heatpipe system able to manage the power loss of every pcb.

Project Plan

The project is offered in different stages as shown in the table below. This schedule is subject to change depending on the order date and could be updated during project development:

Stage	Purpose	Duration	Activities	Date	Deliverables
1	10 Prototypes	8-10 weeks	Prototyping of the cooling solution. Price includes tooling costs. Lead time to be confirmed when PO is received	TBD	A. Prototypes of proposed solution

Project Inputs/Stage & Gate

The following list of items is a combination of project requirements, assumptions and background information that have been provided by us or the customer. The items are referred to as 'project inputs' and will be used as guidance during the project. In order to ensure a successful project and to avoid misunderstandings, it is crucial that the project inputs be checked and approved by the customer before starting. The list of project inputs will be kept updated through the course of the project as new information becomes available. **Project inputs in bold below indicate items that we need from the customer at the beginning of each phase (number is the same as in page 2).**

#	Description of Project Input
	Main mechanical constraints (dimensions, weight, materials, etc.)
	Drawings if available
1	Thermal specs (power dissipated, package footprint and position, max temperature, ambient temperature, air flow, etc.)
	Standards to be compliant with
	Other requirements (aesthetic needs, etc.)
2	Formal approval/acceptance of thermal study
	Formal approval/acceptance of drawings
3	Annual quantity/typical production batch
4	Approval/acceptance of the thermal study
	Other mechanical constraints (machining, finishing, fixing points, tolerances needed, etc.)

Project Costs

The following is an estimate of the project related costs:

Stage	Estimated Cost	Quantity
1	805 €/each	10
TOTAL	8050 €	

Work Authorization

AAVID recommend to order the steps separately. After every step is strongly recommended to verify together the results and how to proceed.

Prior to kick-off Aavid Design will require:

- Stage Inputs approved and to be delivered by Client as specified in this proposal.
- Purchase order from Client in the amount of the authorized proposal.

Aavid Design is available to sign a non-disclosure agreement (NDA) if required.

Terms of Payment

For studies The customer can choose R.I.BA (bank receipt) or bank transfer. 50% prepayment, 50% payment within 30 days after delivery.

For Prototype The customer can choose R.I.BA (bank receipt) or bank transfer. Payment at 30 days after delivery.

AAVID™ Standard Terms and Conditions

1. **QUOTATION** – Seller’s quotation is an offer to sell products and/or services to Buyer under these terms and conditions and those specified in the quotation. Seller’s quotation is valid only for 30 days and may be withdrawn or modified by Seller at any time prior to receiving Buyer’s order. Prices quoted are for specific minimum quantities to be delivered within six months. In the event of a conflict between the terms of the quotation and these terms and conditions, the terms of the quotation shall govern.
2. **ORDER ACCEPTANCE** – Upon Seller’s acknowledgement, Buyer’s order is accepted under Seller’s terms and conditions of sale and those specified in the quotation. If the terms stated in Buyer’s order are inconsistent with the terms contained hereunder and those specified in the quotation, Seller’s acknowledgement shall constitute a counteroffer and Buyer shall be deemed to have accepted Seller’s terms unless it notifies Seller to the contrary in writing within five (5) days after receiving Seller’s acknowledgement. Unless and until specifically agreed to in writing by Seller, any terms inconsistent with the terms offered by Seller shall not be considered accepted by Seller.
3. **PRICE** – Seller reserves the right to revise the price at any time due to unexpected, significant changes in circumstances. In the event that Buyer and Seller fail to agree on the revised price, Seller may, at its sole discretion, elect to cancel any remaining portions of the order without penalty or cost to Seller.
4. **TAXES** – All national, federal, state and local sales, use gross receipts, value added, import/export or other taxes/duties/tariffs now or hereafter enacted, shall be Buyer’s responsibility, and shall be paid by Buyer either to Seller or to the public authorities, as the case may be.
5. **PAYMENT** – Unless otherwise specified, payment terms are net 30 days after date of invoice, subject to credit approval by Seller. Invoices will be issued upon shipment of products (including partial shipments) and/or when services are provided. Progress payments on services are required on a monthly basis. Buyer shall have no right of setoff. Seller reserves the right to cancel or put on hold Buyer’s orders at any time due to Buyer’s non-payment or credit problems, without penalty or cost to Seller.
6. **SHIPMENT** – (a) All shipments will be FOB shipping point, freight/duty collect unless otherwise specified; (b) Quoted lead time for delivery shall be +/- one week and is based upon timely receipt from Buyer of all necessary information and approval of drawings, etc. Seller shall not be liable to Buyer for any loss, damage or delay due to any cause beyond Seller’s reasonable control, including, without limitation: natural disasters, strikes/work stoppages, fires, governmental acts, riots, political unrest, delays in transportation, and shortages in fuel, power, labor, materials, components or other manufacturing facilities. In the event of any such delay, the date of shipment shall be extended for a period equal to the time lost by reason of delay plus any necessary recovery time. Seller, at its sole discretion, may elect to cancel any remaining orders without penalty or cost to Seller in the event of extended delays beyond its control.
7. **RISK OF LOSS** – Buyer assumes all responsibility for, and risk of loss of or damages to, the product upon delivery at Seller’s shipping point even though Seller may have selected the carrier and even though Seller may have agreed to undertake or participate in the installation of the product.
8. **CANCELLATIONS AND CHANGES** – All order cancellations and changes are subject to Seller’s approval. Seller’s acceptance of such changes or cancellations, if granted, shall be conditioned upon Buyer’s reimbursement for all of Seller’s costs, expenses and prorated profits.
9. **INSPECTION AND RETURNS** – Buyer shall inspect product within ten (10) days of delivery. Prior to returning any product to Seller, Buyer shall obtain a return material authorization (RMA) from Seller along with Seller’s specific instructions. Seller will not accept any product returned without a proper RMA number issued by Seller.
10. **EQUIPMENT** – All equipment, including but not limited to jigs, dies, tools and fixtures constructed or acquired by Seller to manufacture/test products sold to Buyer hereunder shall be and remain Seller’s property. Amounts paid in connection therewith by Buyer, if any, represent service charges and fees.

- 11. WARRANTIES** – Seller expressly warrants to Buyer that products manufactured by Seller will be free from detrimental defects in workmanship and materials as determined under generally accepted industry standards and standards established by Seller. Upon acceptance in writing of Buyer's specific requirements, Seller further expressly warrants to Buyer that its products will meet such specifications. If it appears within two years from the date of shipment by Seller that the product does not meet these express warranties and Buyer gives Seller prompt and reasonable notice, Seller shall, at its option, either repair or replace at its expense, FOB Seller's works, but not dismantle or reinstall, the defective parts provided, upon request, such parts are shipped freight prepaid to Seller's works. These warranties shall not apply if product is subjected to other than normal and proper storage, handling, installation, operation and maintenance or to unauthorized repairs or alterations. Equipment, components and accessories made by other manufacturers are warranted only to the extent of the original manufacturer's warranties to Seller. THE FORGOING WARRANTY OBLIGATION OF THE SELLER SHALL CONSTITUTE THE SOLE AND EXCLUSIVE REMEDY OF THE BUYER AND THE SOLE LIABILITY OF THE SELLER. EXCEPT AS SET FORTH HEREIN AND EXCEPT AS TO TITLE IT IS EXPRESSLY AGREED (A) THAT THERE IS NO WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESS, IMPLIED OR STATUTORY, NOR ANY AFFIRMATION OF FACT OR PROMISES BY SELLER WITH RESPECT TO THE PRODUCT OR OTHERWISE WHICH EXTEND BEYOND THE SPECIFICATIONS MUTUALLY AGREED UPON IN WRITING BY SELLER AND BUYER, AND (B) THAT THE BUYER ACKNOWLEDGES THAT IT IS PURCHASING THE PRODUCT SOLELY ON THE BASIS OF THE COMMITMENTS OF SELLER EXPRESSLY SET FORTH HEREIN.
- 12. LIMITATION OF DAMAGES** – IN NO EVENT SHALL SELLER BE LIABLE TO BUYER ON A CLAIM OF ANY KIND, INCLUDING NEGLIGENCE, FOR ANY INTERRUPTION OF OPERATIONS, LOSS OF ANTICIPATED PROFITS OR FOR SPECIAL, INCIDENTAL, CONTINGENT OR CONSEQUENTIAL DAMAGES.
- 13. INTELLECTUAL PROPERTY** - Nothing in this agreement shall grant Buyer any rights or licenses of any kind with respect to any patent, trademark, or more generally, proprietary right owned by or licensed to Seller. Buyer expressly agrees to hold Seller and its officers, directors, employees and agents harmless from any loss, damage, or liability for the infringements of patent rights, licenses, copyrights, trademarks or franchises arising from or connected to, directly or indirectly, the use or sale of the product manufactured by Seller hereunder using Buyer's, in whole or in part), design and/or specifications. Further, Buyer, at its sole costs and expense, shall vigorously defend Seller and its directors, officers, employees and agents in any action, suit or claim in which such infringement is alleged with respect to the sale or use of the product manufactured by Seller hereunder using Buyer's design and/or specifications.
- 14. PARTIES, GOVERNING LAW** – These terms and conditions shall be binding upon the parties and upon their respective heirs, executors, successors and assigns, and this agreement shall be governed by and interpreted in accordance with the laws of Seller's state of incorporation; however, in the case of international transactions it shall be governed by the UN Convention on the International Sale of Goods as adopted in the United States.
- 15. GENERAL** – This contract is for the benefit of the parties hereto and not for any other person. Buyer may not delegate its performance or assign its rights without Seller's prior written consent.

AAVID™ Additional Terms and Conditions

16. Drawings and Specifications All orders are accepted with the understanding that the parts and/or material shall be furnished in accordance with Aavid's standard drawings and specifications or otherwise provided to Aavid with the Buyer's order and which have been specifically agreed to and accepted by Aavid in writing.

17. Tolerances Tolerances on extruded parts shall be in accordance with UNI EN 755. Unless otherwise agreed between the Parties in writing, tolerances on mechanical workings shall be admitted as follow:

Cutting length $L < 300$ mm ± 0.25 Max depth threaded holes M2 6 mm
 $300 < L < 600$ ± 0.5 M2.5 7.5 mm
 $L > 600$ mm ± 1.0 M3 10 mm
M4 12 mm
Holes Interaxis $d < 30$ mm ± 0.2 M5 15 mm
 $30 < d < 120$ mm ± 0.3 M6 18 mm
 $120 < d < 400$ mm ± 0.5 M8 24 mm
 $d > 400$ mm ± 0.8
Holes Diameter $-0.05 + 0.08$ mm
Surface without working Planarity 0.05 / 10 mm
Roughness 1.6 μ m Working tolerances UNI-ISO 2768 Medium Grade
Surface with working Planarity 0.05 / 100 MM Anodizing thickness 12 μ m ± 5 μ m
Roughness 0.8 μ m

18. Changes Any and all changes of the specifications and/or the drawings must be previously confirmed in writing by Buyer and accepted in writing by Aavid. Aavid shall not be or be held responsible for changes which are not made in accordance with this Paragraph 7. Any and all price variations resulting from such changes shall become effective immediately upon acceptance by Aavid.

19. Standard Quantity Tolerances Unless differently written on the front page of the order or agreed to in writing with a duly authorized sales representative of Aavid, the following standard quantity tolerances shall apply:

QUANTITY TOLLERANCE
 $q < 10$ -1 pcs
 $10 < q < 50$ ± 1 pcs
 $50 < q < 200$ ± 2 pcs
 $200 < q < 500$ ± 5 pcs
 $500 < q < 1000$ ± 10 pcs
 $q > 1000$ ± 30 pcs

Date:

Name:

Signature: