

Specifications Document

Purpose

The Spin Electronics group (687.09) within the Quantum Electromagnetics is developing smart-probe technology for characterizing next generation superconducting circuits and memory elements. The procurement of one (1) broadband cryogenic low-noise amplifier will enable low-noise, high-bandwidth measurements.

Deliverables

The contractor shall provide one (1) broadband cryogenic low noise amplifier with an operating range between 0.3 – 14 GHz, operating at 4K, with power dissipation below 15mW, and a noise temperature of below 6K at 4K operating temperature.

Technical Specifications:

- The amplifier shall operate from room temperature down to 4K.
- The amplifier shall operate between 0.3 – 14GHz from room temperature to 4K.
- The amplifier dimensions shall be less than 25mm (W) x 50mm (L) x 15mm (H).
- The amplifier noise temperature shall be less than 8K when operating at 4K and less than 100K at room temperature.
- The amplifier gain shall be greater than 40dB over the operating frequency range and from 4K to room temperature.
- A power supply shall be provided with the amplifier that is automatically and continually adjusted to maintain a constant drain current.

Technical Considerations:

- The system shall be a production model, not a prototype or one-of-a-kind system.
- The amplifier shall use SMA connectors.

Government Furnished Property or Information

N/A

Deliverable Schedule

The contractor shall deliver no later than ten (10) weeks after receipt of order.

Inspection and Acceptance

Inspection and Acceptance period will be no more than ten (10) days.

Request for Quotation (RFQ)

This RFQ is conducted under the authority of FAR 13, Simplified Acquisition Procedures, with NAICS code 335999, having a Small Business Size Standard of 500 employees.

The National Institute of Standards and Technology (NIST) has a requirement for one (1) broadband cryogenic low-noise amplifier, per the associated Specifications Document.

Submissions

All quotations must include the following information:

- 1) Technical literature / relevant product information to demonstrate that the quoted product meets all requirement(s).
- 2) Shipping Information - F.O.B. Destination. Shipping included in the total price.
- 3) Country of Origin of Equipment.

Basis for Award

Lowest Priced, Technically Acceptable

Delivery address

NIST

Shipping and Receiving

325 Broadway

Boulder, CO 80305

The following terms and conditions apply and can be viewed at

<http://acquisition.gov/far/index.html>

52.212-4, Contract Terms and Conditions -- Commercial Items (May 2015)

52.212-5, Contract Terms and Conditions Required to Implement Statutes or Executive Orders -- Commercial Items (Jun 2016)

52.203-98, Prohibition on contracting with Entities that Require Certain Internal Confidentiality Agreements – Representation (DEVIATION 2015-02)

Contractor must have and maintain an active and valid registration in System for Award Management (SAM) <https://sam.gov> to be eligible for award.

Quotations are due no later than September 7, 2016, by 10:00 a.m. Mountain Standard Time. Please direct any questions to Marc Zurasky, Contract Specialist, at marc.zurasky@nist.gov no later than September 2, 2016, at 11:00 am. If you are unable to offer a product that meets the technical requirements, please email back a “no quote.”