

Bid Instructions For Shields-1 CubeSat Vault Electronics (VE) Request for Quote

Bidding instructions

To allow the Government to assess the heritage and applicability of the proposed Vault Electronics (VE), the Contractor shall...

- a- provide evidence of heritage use in low earth orbit (LEO) polar environment; include mission/project name, orbit parameters, and dates of mission. Describe the heritage in the parts, components, assemblies, design, and manufacturing process as previously flown hardware.
- b- Provide past available performance in terms of single event latchup (SEL), recoverable and non-recoverable single event upset (SEU), and single event functional interrupt (SEFI).
- c- provide list of available environmental specifications for which the VE is advertised to operate, including temperature range, random vibration, electro-magnetic interference (EMI), linear energetic threshold (LET), single event upset (SEU), single event latchup (SEL), and total ionizing dose (TID).
- d- Provide list of available environmental specifications to which the VE has been qualified, including temperature range, random vibration, EMI, radiation total dose, linear energetic threshold (LET), single event upset (SEU), and single event latchup (SEL). Note: In the event that Contractor has not conducted radiation testing, the Contractor may suggest mitigation approaches to deal with the single event environment.
- e- Provide, if available, high level description of method used to cope with space environment. (e.g redundancy, type(s) of memory, SEFI/latchup protection methodology, SEU/SEL monitoring, power reset protection methodology, power management features, watchdog features, EDAC, etc.)

Selection Criteria

1. Past performance
 - a. Timeliness of delivery of hardware
 - b. Mission execution
 - i. The duration and orbit of the hardware.
 - ii. Relevance of the technical performance.
 - iii. Errors (software or hardware) that were survived by the system.
2. Technical
 - a. Environment hazard mitigation
 - i. Description of the proposed environmental mitigation approach
 - ii. SEU/SEL/power reset tolerance
 - iii. Radiation tolerance
 - b. Ease of integration.
 - i. Approach for application programming interface (API) for software development
3. Price