

## Technical Specifications

### USB based 1553B Module

1. Description – USB based 1553B Module (USB 2.0 or above)
2. MIL-STD-1553B Channels/Nodes per system: 2 dual redundant MIL-STD-1553A/B channels per system
3. Bus per Channels: 2 Bus per channel (Bus A and Bus B)
4. Each 1553 channel can run as Bus Controller (BC), Remote Terminal (RT) or Monitor Terminal (MT).
5. Built-In Self-Test Capability
6. Transformer and Direct Coupled 1553 I/O
7. Min of 8 (TTL) User-Programmable Digital Discrete I/O
8. MIL-STD-1553 Bus Controller (BC) capabilities
  - Implement major and minor frame scheduling
  - Insert high and low priority asynchronous messages in the middle of a frame
  - Separate 1553 message data from control/status data
  - Implement message retry schemes, including the capability for automatic bus channel switchover for failed messages
9. MIL-STD-1553 Remote Terminal (RT) Specification
  - Capability of implementing up to 31 RTs on a single channel
  - Software Programmable RT Address for all channels
  - Programmable Command Illegalization
10. MIL-STD-1553 Bus Monitor (MT) Specification
  - Filtering for Monitored Messages based on RT Address, T/R and Sub-address
  - 1553 Bus Playback from Stored Monitor File
11. API Software shall allow each MIL-STD-1553 channel of the card to be used by independent executable applications on the same computer.
12. Power Supply:
  - Both USB and provision for external supply
13. LED Indicators: To indicate power status and health status of module.
14. Connectors for MIL-STD-1553: Part Number 305-1635 or equivalent mounted directly on the enclosure.
15. Operating Temperature: 10°C to +40°C
16. Software API & Driver: Windows 10 or higher (32/64 bit), Linux (32/64 bit)
17. Accessories
  - 1 USB Cable
  - 1 AC Power Adapter
18. Test Software: Vendor shall supply the 1553 card with Windows based and Linux based Test Software to perform the following:
  - BC Synchronous Message Test – Configure a selected channel as BC and send one message each of type BC->RT, BC<-RT, RT<-RT, Mode Code and display the transaction result
  - BC Asynchronous Message Test – Configure a selected channel as BC and send one High Priority and Low Priority async messages.
  - External Loop Test on selected channel

- BC test software – Configure card as BC and receive data from RTs
- RT test software – Configure card as RT and legalize TX and RX Sub Addresses
- MT test software – Configure selected channel in MT mode and display captured 1553 traffic