

# Gateway unit for Mars Mission Probe

## Indian Space Research Organization

### Summary

Tata Elxsi supported in developing MENCA (Mars Exospheric Neutral Composition Analyzer) probe of India's Mars Mission Program. This MENCA interfaces Telecommand, Telemetry and the Spectroscope interfaces and Acquires data from payload and transmit to Telemetry System. It also supports Remote Programmability

### Scope

- Hardware Design around DSP SMJ320C6701
- Hardware Development using space grade components
  - PCB design as per stringent guidelines for space application
  - PCB Fabrication and Assembly as per Space grade process
- Software Driver Development for Peripherals
- Software guidelines derived from DO178-B
- Test PC Application Development in LabVIEW
- Hardware – Software Integration Testing



### Challenges/ Highlights

- Time Critical
- Space grade product development
- Component assembly as per space grade process

### Tools & Standards

- Cadence allegro

