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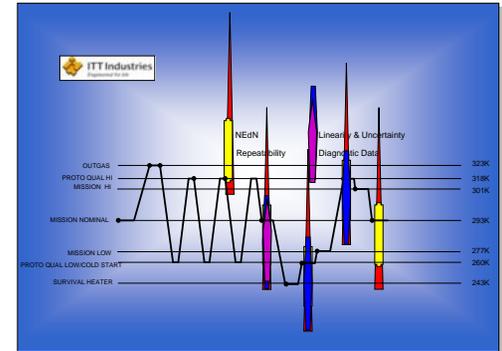
Introduction

The Cross-track Infrared Sounder (CrIS) will provide improved atmospheric moisture and temperature profile measurements that can be used to improve the accuracy of future weather forecasts. Prior to launch, an extensive ground test and characterization program will be completed to build confidence that the sensor will be able to carry out its mission on orbit.

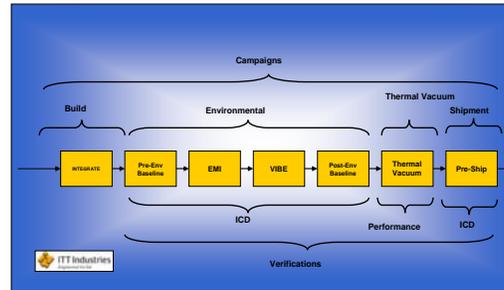
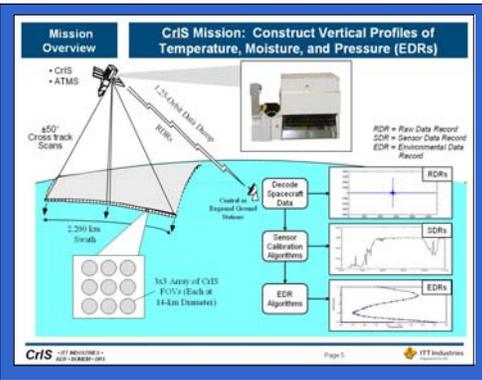
Planned Ground Tests to Insure CrIS On Orbit Performance

- NEdN performance
- Radiometric accuracy (short and long term drifts, non-linearity)
- Spectral wavelength stability
- Instrument Line Shape (ILS) stability
- Robustness to environmental conditions (temperature, vibration, EMI, etc.)
- Optical, electrical and mechanical functionality

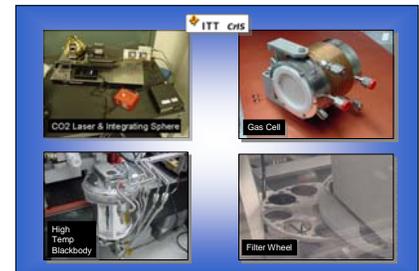
Temperature Profile for Thermal Vacuum Test



Internal Calibration Target (ICT), External Calibration Target (ECT), and cold simulated space look used for calibration and characterization.



Spectral Wavelength and ILS Characterization and Stability



Equipment used in wavelength and ILS testing

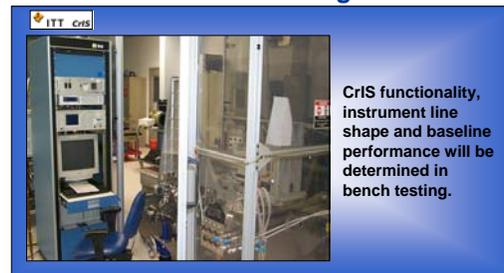
Scheduled Start Dates for Tests

- October 19, 2007 System integration and bench
- November 6, 2007 EMI
- December 7, 2007 Vibration
- January 7, 2008 Thermal Vacuum
- March 13, 2008 Pre-shipping

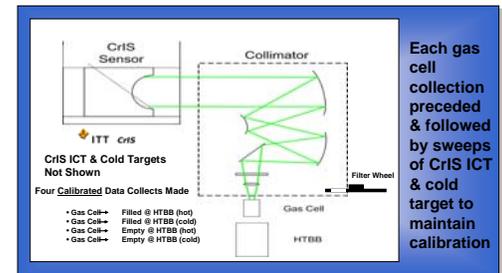
CrIS Spectral Bands:

- LWIR: 650 – 1095 cm^{-1}
- MWIR: 1210 – 1750 cm^{-1}
- SWIR: 2155 – 2550 cm^{-1}

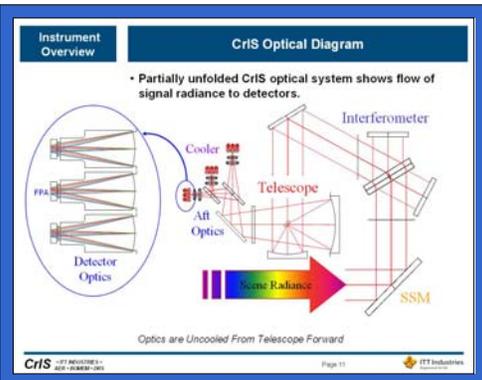
Bench Testing



CrIS functionality, instrument line shape and baseline performance will be determined in bench testing.



Each gas cell collection preceded & followed by sweeps of CrIS ICT & cold target to maintain calibration



Thermal Vacuum Testing



CrIS radiometric and thermal performance will be verified in thermal vacuum testing.

Day in the Life Test

- A simulation of 3 orbits will be performed
- Scene and calibration data will be collected in operational mode
- On orbit temperature changes will be simulated
- The main bus power voltage will be varied to simulate varying state of charge of the spacecraft batteries
- Sensor parameters will be trended
- Extensive diagnostic data will be recorded