GLAST Large Area Telescope:
LAT System Engineering

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Topics

• I&T Subsystem Coordination
  – I&T Subsystem Coordination Documents
    • ACD Subsystem LAT I&T Coordination Document LAT-TD-04542-01
    • CAL Subsystem LAT I&T Coordination Document LAT-TD-04543-01
    • MTC Subsystem LAT I&T Coordination Document LAT-TD-04544-01
    • SAS Subsystem LAT I&T Coordination Document LAT-TD-04545-01
    • T&DF Subsystem LAT I&T Coordination Document LAT-TD-04546-01
    • TKR Subsystem LAT I&T Coordination Document LAT-TD-04547-01
  – Acceptance Test Data Package (ATDP) Content Requirements Documents
    • ACD Subsystem ATDP Contents Requirements LAT-TD-04349-01
    • TKR Subsystem ATDP Contents Requirements LAT-TD-04350-01
    • CAL Subsystem ATDP Contents Requirements LAT-TD-04351-01
    • MTC Subsystem ATDP Contents Requirements LAT-TD-04352-01
    • T&DF Subsystem ATDP Contents Requirements LAT-TD-04353-01
I&T Subsystem Coordination Document

- PURPOSE
  - Coordinate deliverables between LAT Integration and Test (I&T) and Subsystems.

- CONTENTS
  - User’s Manual
    - Startup Procedure
    - Power off Procedure
    - Operational Constraints
  - Test Scripts
    - Compatible with current version of LATTE.
      » S/S maintains compatibility through LAT integration
      » SLAC maintains compatibility post LAT integration
  - Science Verification and Calibration (SVAC) Algorithms
    - Provided to SLAC I&T in time for verification during LAT level testing.
  - Mechanical Ground Support Equipment (MGSE)
    - MGSE provided by subsystems to LAT I&T requires:
      » Drawings
      » Inspections
      » Proof Tests and Certifications
  - Electrical Ground Support Equipment (EGSE)
    - EGSE provided by subsystems to LAT I&T requires:
      » Drawings
      » Inspections
      » Acceptance Tests and Procedures
      » Validation Tests and Procedures
      » Calibration Tests and Procedures
ATDP Contents Requirements Document

• PURPOSE
  – Coordinate contents ATDP for each subsystem

• CONTENTS
  – Identification
    • Unit Identification (drawing or part number with revision level)
    • Unit Serial Number
    • Date and time of release for delivery
    • Responsible Equipment Engineer (REE) Certification
    • Quality Assurance Certification (as required)
    • SLAC approval for shipment.
  – Unit Performance Data
    • Compliance Matrix
      – Demonstrated Compliance to Level 3 Requirements
    • Performance Summary Matrix
    • Trend Data
    • Test Reports/Summaries
      – Dynamics, Thermal-Vacuum Test Report, EMI/EMC
    • Mechanical Summary Data
      – Mass, Center of Gravity, Dimensions, Stay Clear Zones, Interface Flatness and Surface Finish
    • Electrical Summary Data
      – Power Consumption
ATDP Contents Requirements Document

• CONTENTS (Cont’d)
  – Unit Support Data
    • Telemetry Calibration Curves
    • Science Verification Analysis and Calibration Data
    • Software Version Report
      – Flight Software, Test Software
    • Hardware Installation record
    • Mate/De-mate Log
    • On-time Log with Operational Hours
  – Quality Assurance Data
    • Non-conformance Report Summary
    • Traceability of Build Process through integration.
    • Photographic Record of as built configuration.
    • Inspection Record
    • Storage, handling, and shock records