GLAST Large Area Telescope:

Electronics, Data Acquisition & Flight Software W.B.S 4.1.7

February Monthly Review

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TEM/TPS Status & Schedule

• **Status**
  - **Two Flight Tower-Electronics Modules/Tower Power Supplies**
    - Vibration, Thermal-Vacuum, EMI/EMC tested, passed
    - One unit delivered to I&T, integrated with flight CAL/TKR
    - 2nd unit ready, awaiting EDAP review
  - **Qual unit**
    - Vibration tested, passed
    - EMI/EMC in progress. Most tests passed, last test end of this week
    - CE102 - Passed
    - CECM - Passed
    - CS102 - Passed
    - CSCM - Passed
    - CS06 - Passed
    - RE101 - Passed
    - RE102 - Passed
    - RS101 - Passed
    - RS103 – in progress
    - Thermal Vacuum next week
  - **Balance of 19 TEM/TPS in surface-mount assembly at vendor**
    - 4 TEM and TPS pre-coat ready for test early next week
    - After test at SLAC, coating at assembler and integration in enclosures
    - Shortage of 12V Zener diode (lost 14 at vendor); placed new order, 3 weeks delivery

• **Schedule**
  - 2/17/05 First TEM/TPS to I&T, done
  - 3/1/05 Second TEM/TPS to I&T, not done since it awaits review
  - 4/7/05 Third TEM/TPS to I&T
    - One week lag between delivery of consecutive assemblies
  - 7/26/05 Last TEM/TPS to I&T (still assumes 1 TEM/TV cycle)

• **TV testing of 19 units**
  - Ordered new vacuum feed-thru to be able to TV two TEM/TPS simultaneously
    - Delivery 3/25/05
    - Harness for test in assembly
PDU Status and Schedule

• Status
  – Design/documentation complete
  – Enclosures fabricated
  – All parts received (except recalled International Rectifier regulator, due next week)
  – Assembly contract awarded
  – All parts kitted and audited by assembly vendor
  – Assembly started

• Schedule for proto-flight
  – End March: unit assembled, pre-coat, ready for test
  – Mid April: unit fully assembled, ready for environmental test

• Schedule for Flight Unit
  – 5/15/05 Precoat PDU assembly ready for electrical test
  – 5/30/05 Complete assembly ready for environmental test
  – 7/1/05 Flight PDU to I&T

• Tester
  – Designed analog mux card for TV test, fabricated, is in assembly
  – Vacuum feed-thru plate on order, 4 week delivery
GASU Status and Schedule

- **Status**
  - Testing of GEM (Trigger) part to be completed end of this week.
    - Drives programming of flight FPGAs
    - FPGA’s not needed until GASU DAQ boards have been reflow assembled
  - Enclosures fabricated
  - All components/parts received
  - Assembly contract awarded
  - Parts being kitted
    - Short one Zener Diode, placed new order, 3 weeks delivery
  - Flight assembly to start 3/20/05

- **Schedule for proto-flight**
  - Mid April: unit assembled, pre-coat, ready for test
  - End April: unit fully assembled, ready for environmental test

- **Schedule for Flight Unit**
  - 5/20/05 Precoat GASU assembly ready for electrical test
  - 6/10/05 Complete assembly ready for environmental test
  - 7/13/05 Flight GASU to I&T

- **Tester**
  - Tester in design/debug
  - Designed analog mux card for TV test
    - Lots of harness assembly to be done for these cards
  - Ordered 450-pin feed-thru for chamber
SIU/EPU Status and Schedule

• **Status**
  - Design/documentation complete
  - Enclosures fabricated
  - All components/parts received except BAE RAD750 CPU
    - Uses recalled International Rectifier regulator
    - Boards to be sent back to BAE
    - Reworked boards expected 3 weeks after they receive components; June 05
  - Test assembly of PCI connectors on plug-in board and back-plane in progress at Aeroflex

• **Schedule**
  - In next 2 weeks: assembly of cCPI connectors onto sample flight boards
    - Three different assembly methods
    - Analysis at GSFC
    - Decision which method to use for flight assembly
  - 6/1/05 Precoat cCPI boards ready for electrical test
  - 7/28/05 Complete assembly ready for environmental test
  - 8/19/05 First Flight SIU/EPU to I&T
  - 8/24/05 Second flight SIU/EPU to I&T
  - 8/27/05 Third flight SIU/EPU to I&T
  - 8/30/05 Fourth flight SIU/EPU to I&T
  - 9/2/05 Last flight SIU/EPU to I&T

• **Tester**
  - In design
Harness

- Harness on order, priority list with dates on web-page below

VSC (Virtual Spacecraft Simulator)

- System Design for VSC complete
- All non-custom hardware to be for 4 systems on order
  - GPS and MIL1553 4 weeks delivery, first week of April
- SSR hardware interface module’s complete/tested
- SSR software for SSR is working (M. McDougald)
- TCP/IP connection is working (A. Perazzo)
- SW for MIL1553 had been done already
- Scheduling/Queueing started (M. Huffer)
- VSC FSW Interface to be done (S. Maldenado)
- Debugging of whole system to be done once all pieces are available
- Schedule is end of March for prototype, driven by FSW interface
- 2 VSC‘s for FSW in data-flow lab first week of April
- 2 VSC‘s for I&T to follow
Issues

- Details of TV testing of GASU & PDU
- AUSTIN EEPROM DPA problems
- Delivery of Omnirel linear regulator for RAD750, PDU
- Qualification of cCPI press-fit connector assembly using solder process
- Delivery issue with GASU PS Zener protection diode for ACD voltage (April delivery, might eliminate the part)
- Need to work on closing open FPGA review items