

ACIS Verification Summary Report

36-01515.124

Specification: ACIS Contract End Item Specification

Requirement Number/Title: 3.2.8 Safe modes (VRSD 3.2.8-1)

Requirement Statement: The ACIS instrument shall be capable of entering a safe mode that will have its survival temperature maintained by the SIM and have its subsystem configured into a low power mode by command , to conserve spacecraft power while at the same time retaining its SRAM data tables.

Verification Method: Test

Procedure Number: 36-01301.01 Long Form Functional Test Procedure

Configuration: ACIS instrument configured in the operational with an EU RCTU, CTUE and the ACIS EGSE

Cycle Time:

Verification Discussion/Results:

The safe mode for ACIS is defined as one backend processor (BEP) operating retaining the SRAM data tables and patches. It has been demonstrated many times during the performance of the ACIS long and short form functional tests that ACIS is capable of being configured with one BEP operating and retaining its SRAM data tables . It has also been demonstrated that the ACIS power can be commanded off by high level pulse commands from the spacecraft. With the ACIS commanded off the PSMC will consume approximately 6.0 watts to maintain its internal command capability (see verification summary report 36-01515.218 for power measurements during various operating modes of the ACIS instrument) . Maintaining the survival limits of ACIS with the SIM heaters will be demonstrated during Thermal Vacuum testing at BALL and TRW.

Edward H. Bough 5-23-97
ACIS Cognizant Engineer Date

Element:
ACIS

Requirement Number:
3.2.8

Verification Item:
3.2.8-1

Requirement Title:
Safe Modes

**AXAF-I
Verification
Requirement
Compliance Data
Submittal**

Evaluators:
CHE, THRM, SW, IN&C, DMS

Type of Review:
 Verification Item Closure
 Requirement Closure

Compliance Data/Location:
MA-145/36.01510.124/Bldg 4200 Rm 522 (MIT Closure Report)

Verification Method
Test

Comments:
DMS - APPROVE THE DMS ASPECT OF VRSD - J. SHARP ADDRESSES THE THERMAL ASPECT

THRM - This verification activity cannot be closed until ISIM thermal balance testing at BASD demonstrates that ISIM heater system will maintain survival temperatures. - Recommend Other. (John Sharp - NASA/ED63 - 205-544-5156, 6/16/97)

IN&C - Approve for IN&C Aspect and concur with J. Sharp for the Thermal Aspect

Survival heaters are responsibility of BASD. Analysis was done by BASD, heaters supplied by BASD/TRW, and control is by the BTU (BASD thermal control unit). Only issue for MIT is whether they were wired correctly. Use in ACIS T-V test proves the latter.

*William Mayer
7/16/97*

Status:
Open 5/30/97 due 6/27/97

Recommendation: Approve
 Disapprove
 Other (Explain)

Action Required for Closure:

MSFC Evaluator: John Sharp Date: 6/16/97 Organization: NASA/MSFC/ED63 Phone Number: 205-544-5156

Disposition: Approve
 Disapprove
 Other (Explain)

Action Required for Closure:
Submit data after ISIM TV showing that ACIS survival temperatures are maintained.
Disagree with Disposition. Should be Approve and "Other" (ISIM T-V test report by BASD).

Chief Engineer: Anthony R. Lavoie Date: 6/25/97