

ACIS Verification Summary Report

Specification:	AXAF Observatory to Science Instrument ICD (IF1-20)
Requirement Number/Title:	3.3.2.2 FPSI Survival Heater Requirements (VRSD 3.3.2.2-1)
Requirement Statement:	ACIS shall include provisions for controlling the focal plane and detector housing to the specified temperatures (including survival) of Table 3.3-3.
Verification Method:	Validation of Records and Test
Procedure Number:	MIT 36-01306, Rev.s B and C
Configuration:	Rev. B documents ACIS TV Test #1. Rev. C documents ACIS TV Test #2.
Cycle Time:	TV Test #1: 3 weeks. TV Test #2: 6 days

Verification Discussion/Results:

MIT Verification Report 36-01510.086 documents that the DH was controlled to its operating temperature of $-60 \pm 1\text{C}$ for hot and cold protoflight conditions. The cold survival soak on 2/24/97 showed that the DH can be held at or above -76C with approximately 5W. The flight DH survival heater provides up to 20W at 28V.

The FP temperature during TV Test #2 was -116.6 to -120C for hot and cold protoflight conditions. Analysis shows the on-orbit hot case temperature for the FP will be -120C with 1.15W of margin. Analysis shows that the FP can be held above its survival limit of -136C with the DH at its survival temperature of -76C .

Ellen M Sen 5/20/97
ACIS Cognizant Engineer Date