

## ACIS Verification Summary Report

<b>Specification:</b>	AXAF Observatory to Science Instrument ICD (IF1-20)
<b>Requirement Number/Title:</b>	3.3.1.1.1.4 ACIS DA Thermal Interfaces (VRSD 3.3.1.1.1.4)
<b>Requirement Statement:</b> The ACIS translation table aperture at the SIM I/F shall be represented as a black body radiator with operational temp range of +8 to +12 °C when ACIS in viewing position.	
<b>Verification Method:</b>	<i>Analysis</i>
<b>Procedure Number:</b>	<i>N.A.</i>
<b>Configuration:</b>	<i>ACIS Instrument installed in ISIM.</i>
<b>Cycle Time:</b>	<i>N.A.</i>
<b>Verification Discussion/Results:</b>	
<p>The ACIS CDR presentation package from June 1995 documents the hot case (Attachment 1) representation of the +12C telescope in the ACIS DA thermal model. The hot case temperature of +12C is the most conservative telescope temperature to use because the hotter the telescope, the more difficult it is for the ACIS TCS to cool the FP to -120C. Using the value of +8C for the telescope is a less conservative hot case.</p>	

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

# Thermal Design Drivers



Requirement	Ref.	Compliant	Verification
Thermal Isolation	CEI	Yes	Test
Focal Plane < -120°C	CEI	Yes	-127°C Analysis
Detector Housing < -60°C	Derived	Yes	-65°C Analysis
Boundary Conditions (hot)	CM07A	Yes	Test/Analysis
0°C SIM			
12°C Telescope			
30°C Proton Shield			
+10°C +Z Panel			
Solar & Earth Fluxes	SE29	Yes	Analysis
Orbit > 10,000 Kilometers	PRD	Yes	Analysis
Sun 45° off -Z to +X	PRD	Yes	Analysis
30° Roll Capability	Derived	Yes	Analysis

Attachment 1 - Verif. rpt. 36-01520.014

