

ACIS Verification Summary Report

Specification:	ACIS Contract End Item Specification
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Requirement Number/Title:	3.2.3.1.1 Ground Life (VRSD 3.2.3.1.1)
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Requirement Statement: The instrument shall be designed for a ground lifetime of six (6) years, beginning with application of electrical power to the instrument, and includes: instrument test and verification; instrument storage; AXAF-I test, verification, observatory storage and launch.

Verification Method:	Analysis
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Procedure Number:

Configuration:

Cycle Time:

Verification Discussion/Results:

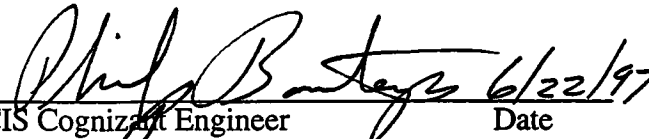
Based on electrical and mechanical stress analyses, environmental testing and evaluation of limited life items, it is believed that ACIS complies with the overall requirement for operational availability of 11 years (6 ground years and 5 on-orbit).

All electronic parts have been derated per MIL-STD-975. A stress analysis has been performed and calculated stresses and stress ratios have been favorably compared with the derating requirements of MIL-STD-975.

Mechanical parts have been successfully life tested to 2.5 times the total number of cycles they would be expected to see (on the conservative side). All ACIS components have been environmentally tested so as to verify their ability to withstand, with margin, the ground and on-orbit environments for which they were designed. Stress and fracture analyses have been performed showing ACIS structural design margin.

Limited life items have been identified and evaluated; these are O-rings, the Fe55 radioactive source, and mechanism actuators. All these items have a minimum life of at least 8 years, which supports the 6 year ground life requirement.

There are no known factors which would preclude ACIS from satisfying the 6 year ground life requirement or the 5 year on-orbit requirement.


 ACIS Cognizant Engineer Date