PFR-083 Title: SCM X Axis Amplitude Discrepancy

Assembly : F1 SCM	**SubAssembly :**	
Component : DFB	**Units Affected:** x 0 0 0 0 0	**Units fixed:** x 0 0 0 0 0
Originator: Hilary Richard		
Organization: UCB	**Date:** July 12, 2005	
Phone: 510-642-7603	**Email :** hrichard@ssl.berkeley.edu	

Failure Occurred During (Check one √)

√ Functional test □ Qualification test □ S/C Integration □ Launch operations □ Other (Flight Assy)

Environment when failure occurred:

√ Ambient	□ Vibration	□ Shock	□ Acoustic
□ Thermal	□ Vacuum	□ Thermal-Vacuum	□ EMI/EMC

Problem Description

The test results shown in test report THM-SCM1-INT-01.0 section 2.4, End-to-End Calibration details the unexpected gain on the Bx axis. The Bx, By, Bz gains were found to be 10440 Tmc/V, 6021 Tmc/V, 6426 Tmc/V, respectively.

Analyses Performed to Determine Cause

The F1 SCM preamp with the feedback connector revealed through the calibration signal's amplitude that the gain on the x-axis was anomalous. Inspection of the DFB traveler documentation pointed towards a resistor replacement rework on R127 that had not been completed. This resistor value directly affects the gain on the SCM x-axis analog channel of the DFB.

Corrective Action/ Resolution

The R127 resistor on the F1 DFB was reworked to its correct value. The DFB was retested with the SCM preamp calibration signal and the gain on all three axis was found to be the same. To ensure that the R127 rework was completed on all other DFB boards, the flight board travelers have been inspected.

Acceptance:
MAM: Ron Jackson_____; MSE: Ellen Taylor_____

PM: Peter Harvey_____; Cognizant Engineer_____

Date of Closure_____