

PFR-031 Title: DCB SN2 SST Clock Shorted to Vcc					
Assembly : IDPU		SubAssembly : DCB			
Component :		Units Affected:	Units fixed:		
Originator: Michael Ludlam		0 0 0 0 0 x	0 0 0 0 x		
Organization: UCB		Date: 14/MAR/05			
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Failure Occurred During (Check one $$					
x Functional test \Box Qualification test \Box S/C Integration			tion \Box Launch operations	Other (Flight Assy)	
Environment when failure occurred:					
x Ambient	\Box Vibration	ſ	□ Shock	Acoustic	
Thermal	Vacuum		Thermal-Vacuum	□ EMI/EMC	
Problem Description					

(In this section it is important to document the specific symptoms which exhibited the problem. In the event we see it happen again, we would like to know as much as possible.)

Pin 198 of U24 is shorted to Vcc. This was seen during DCB initial checkout.

Analyses Performed to Determine Cause

(How do we know how the failure happened? Was it a bad part, bad handling, what?) The board was shipped back to UCB for debugging.

R17 which pulls the trace from U24 pin 198 to U2 pin 9 up to Vcc was removed and the resistance measured. This measured 0 Ohms.

Pin 9 of U2 was lifted. The resistance across R17 was measured. This measured 0 Ohms.

Pin 198 of U24 was lifted. The resistance across R17 was measured. This measured 0 Ohms.

Air was blown around the Actel (U24). The resistance across R17 was measured. This measured an open. After further analysis it was discovered that pressing on the board in a particular location around C3 produced the short across R17. On closer inspection of the board around C3 under a microscope there was a small solder bridge from C3 that was touching the via going to R17 connecting both sides to Vcc.

Corrective Action/ Resolution

(How do we fix the unit? And how do we make sure it doesn't happen again?)

The solder bridge was removed and the DCB Actel was replaced as a precaution as the part had possible undergone electrical stress.

Acceptance:	
MAM: Ron Jackson	; MSE: Ellen Taylor
DM: Dotor Horizov	· Cognizent Engineer
	_, Cognizant Engineer

Date of Closure