



DCU II Investigation


P/N 32211-03 SN DP05-3423 & DP05-3409

Reason for return: Crash investigation. Attempt to extract data from unit. Reference NTSB Accident Report # ERA17FA190. (Attached) Accident date 05/25/2017.

Investigative Team :

SEDC (R&O and Test Supervisor) : Lyall Brownlee

TSB (Regional Senior Investigator): Peter Machete

1	A	B	C	D
2	<div style="display: flex; justify-content: space-between;"> <div style="width: 60%;">  <h1 style="margin-top: 10px;">DCU II Investigation</h1> <p style="margin-top: 10px;">P/N 32211-03 SN DP05-3423 & DP05-3409</p> <p>Reason for return: Crash investigation. Attempt to extract data from unit. Reference NTSB Accident Report # ERA17FA190. (Attached) Accident date 05/25/2017.</p> </div> <div style="width: 35%; border: 1px solid black; padding: 5px;"> <p>Investigative Team :</p> <p>SEDC (R&O and Test Supervisor) : Lyall Brownlee</p> <p>TSB (Regional Senior Investigator): Peter Machete</p> </div> </div>			
4	SAFRAN ELECTRONICS & DEFENSE CANADA - Peterborough			
5	Test Plan			
6	Step	Description	Owner	Results
7	1	Investigation Actions		
8		Date of Action: August 15, 2018		
9	A	Inspect condition of shipping container	Lyall	No damage to shipping container was noted. The box was not marked or identified as being investigation material. (See photos in 'As Received Visual Inspection' tab)
10	B	Remove units and perform external visual inspection	Lyall	The units were securely packed in a sealed bag and wrapped in bubble wrap. External Visual Inspection noted that both units were severely damaged by fire. Serial number plates were legible and the serial numbers were confirmed to be DP05-3423 and DP05-3409. ID Label on DP05-3423 had been lost, but ID Label on DP05-3409 was confirmed to be Part Number 32211-03. (See photos in 'As Received Visual Inspection' tab)
11	C	Perform tear down inspection on SN DP 05-3423	Lyall	More heat damage was noted internally. Insulation was melted from wires, rubber gasket had melted from the connector J1, PCB layers were burnt leaving not much more than the metal traces and ground plane. The NVM component was liberated from the board and was loose in the housing. The component was retrieved from the housing and cleaned up, but the casing of the IC showed signs of heat damage. (See photos in 'Tear Down DP053423' tab)
12	D	Perform tear down inspection on SN DP 05-3409	Lyall	More heat damage was noted internally. Insulation was melted from wires, rubber gasket had melted from the connector J1, PCB layers were burnt leaving not much more than the metal traces and ground plane. The NVM component was still attached to the board by a few traces. The component was removed from the board and cleaned up, but the casing of the IC showed signs of heat damage. (See photos in 'Tear Down DP053409' tab)

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13	E	Extract data from NVM Components	Lyll	<p>Data extraction was attempted using Data I/O 3980 Programmer, and SEDC Work Instruction # 94-066 Rev. A. Data extraction from both of the NVM components was unsuccessful.</p> <p>When the memory components were placed in the programmer and the action to extract data initiated, the programmer returned the error, "Empty Socket" for DP05-3423 and "Continuity Test Failed" for DP05-3409. These errors would indicate that there was absolutely no response from the component. Multiple attempts were made to ensure that proper physical contact was being made between the programmer and the components but the same results were obtained. SEDC concludes that the extreme heat exposure has fatally damaged the components and the data has been permanently lost.</p>
14	2	Discussion and Action items		
16	A	Not applicable.	N/A	N/A
17	3	Conclusions		
18	A	Not applicable.	N/A	N/A