

**communications**

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Display Systems  
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CL10-000-1348/MS

Alenia North America  
1625 Eye Street NW, Suite 1200  
Washington, DC 20006

Attention: David Hope  
Procurement  
C-27J Program  
Alenia North America

**SUBJECT: NOTIFICATION OF SUSPECT COMPONENTS – PART NUMBER  
U100582-000, 4MB IC VRAM CHIP**

Dear Mr. Hope:

L-3 Communications Display Systems (L-3 DS) recently identified a concern with the U100582-000 4MB IC VRAM chip utilized in the Color Multipurpose Display Units (CMDU) display assemblies. The initial concern was discovered internally through a perceived increase of failures during testing of the display. Preliminary analysis by L-3 DS lead to the concern that the U100582-000 chip may have been tampered with, indicating the components are suspect. Additional testing by an external laboratory has confirmed the U100582-000 VRAM chip has been remarked.

L-3 DS has taken the following actions concerning the U100582-000 VRAM chip with date code 813:

- Containment
  - Initiation of a purge of all internal stock for the 813 date code to prevent additional assemblies from being produced.
  - Stoppage of any additional shipments of units containing suspect U100582-000 components with an 813 date code.
  - Please refer to the attached list for a complete detail of serial numbers that have shipped from L-3 DS with the U100582-000 VRAM chip with the 813 date code.
    - The first receipt of the U100582-000 with the suspect date code was received 3/24/2009.
    - 98 units have shipped as new production after receipt of these components; possibly containing the suspect component.

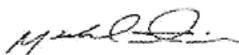
- Scope of Concern
  - Suspect parts were delivered to two (2) independent test facilities (SMT & ORS) to complete counterfeit part analysis.
    - SMT confirmed the parts had multiple indications that they have been tampered with; including blacktopping.
      - Parts have been confirmed as having the correct die, indicating the internal circuitry is correct for U100582-000.
    - ORS testing was inconclusive as to the legitimacy of the parts, but confirmed that the components tested are U100582-000.
    - L-3 DS also completed de-encapsulation testing that confirmed the internal die matches that of a non-suspect date code. This indicates the parts in question are U100582-000 parts.
  - The OCM, Samsung, has been contacted for additional verification details of the U100582-000 part with the 813 date code. No response has been received.
  - L-3's supplier has been notified of the issue, and has provided support information concerning the exposure.
    - L-3 received the parts from Global IC Trading Company, a component broker.
    - Global IC received these parts from Hongdark Electronic Trade.
    - Hongdark supplied 1 other component currently in assemblies, which L-3 is confirming. This component is not used in any Alenia assemblies.
  - The failure totals attributed to the U100582-000 has been assessed under those found internally at L-3 DS through our testing, and those found as a result of a customer/ field return. In an effort to avoid failures at the customer, L-3 DS completes 100% testing on all units. The values were determined through analysis of all CMDU's & MFCD's.
    - Internal Failures Corrected Through Screening: 141 (27%; Assemblies where U100582-000 was replaced after testing/ Units Shipped with Suspect Date Code)
    - Field Returned Failures: 1 (0.2%; Return Assemblies for U100582-000 Failure / Units Shipped with Suspect Date Code)
  - L-3 DS' Safety Engineer has reviewed the conditions of this failure and provided the following information:
    - Identification of the original failure was by screening process, not by reduced performance reported or exhibited in the field.
    - No units that have failed the screening process were issued for installation or delivered to the customer.
    - The performance of the field units is not expected to change, nor are any new failure conditions or effects expected.
    - The failure modes that may be exhibited by the displays as related to a failure of the U100582-000 are:
      - Degraded visual imagery on the display
      - Blank screen/ Loss of display
      - BIT Failure (PBIT, CBIT, IBIT)

- The potential rate of single and multiple failures remains consistent with the original safety assessments and FMECA.
- The failure modes are mitigated by redundancy of multiple reconfigurable displays in the aircraft.

In summary, L-3 DS' initial assessment is that the U100582-000 VRAM component with the 813 date code are authentic but have been tampered with for the purpose of remarking them. Based on this analysis, it is determined that the field failure of suspect components is not anticipated to deviate from the current failure percentages, as a result of L-3 DS' internal testing.

Attached is a list of suspect assemblies shipped, should you require additional information or clarification regarding the above subject suspect component, please do not hesitate to contact Chris Durre, Principal Quality Engineer, [REDACTED] or the undersigned at [REDACTED]

Sincerely,



Michael Simmons  
Contracts Manager

CC: L. Ream  
B. Nall  
C. Durre