

USA Ground Operations CIL Sheet

Critical Item: PMC Ethernet Controller
NASA Part No: None
Mfg/Part No: Ramix, Inc. / PMC663J
System: Checkout and Launch Control System

Criticality Category: 1
Total Quantity: 1

Find No.	Qty	Area	PMN	Baseline	Drawing / Sheet
52473A23A1A4A1	1	HMF	L72-4900	090.10	84K09908-002 / 8

Function:

Provides isolated inputs/outputs between the RTCN and the FEPC.

Failure Mode No. Failure Mode	Failure Cause Failure Effect	Detection Method Time to Effect	Crit Cat
01IT03-002.003 Corruption of Data	Internal Component or Software Failure Invalid RTCN data would be sent to the FEPC. Invalid data would be recorded to the SDC and locally. Making a critical decision based on invalid data could result in loss of life and/or vehicle.	None Seconds	1

ACCEPTANCE RATIONALE

Design:

- Worldwide Standards Compliance
 - International
 - Institute of Electrical and Electronics Engineers (IEEE) Std 1386, Standard for PCI Mezzanine Cards (PMC)
 - Institute of Electrical and Electronics Engineers (IEEE) Std 802.3, IEEE Standards for local area networks: Carrier Sense Multiple Access with Collision Detection (CSMA/CD) access method and physical layer specifications
- Designed to industry standards.
- Employs multiple levels of error checking utilizing Cyclic Redundancy Checks (CRCs) and checksums to reduce the likelihood of corruption of data during transmission between endstations.
- All input power is delivered to the hardware through CLCS Power Distribution Chassis (PDCs) which employ Electromagnetic Interference (EMI)/Radio Frequency Interference (RFI) filtering and Transient Voltage Surge Suppression (TVSS).

Test:

- Under the provisions set forth in 84K00071 "CLCS Hardware Development Plan" the following tests were performed:
 - RIT - TBD
 - 84K02901 "Hardware Specification and Design Verification Test (DVT), VME Data Processing Hardware and Operating System Software" - a unit design test.
 - 84K07210-010-02 "Hypergolic Maintenance Facility (HMF) Hardware Installation Test (HIT)" - an integrated connectivity test.
 - 84K07211 "Hypergolic Maintenance Facility (HMF) Hardware Validation Test (HVT)" - an integrated functionality test.

- CLCS HMF Level 5 User Acceptance Testing as outlined in 84K00190, "CLCS Certification Plan".

Inspection:

- No inspections or preventative maintenance is accomplished on this item.

Failure History:

- Current data on test failures, unexplained anomalies, and other failures experienced during ground processing activities can be found in the PRACA database. The PRACA database was researched and no data was found on this component in the critical failure mode.

Operational Use:

Correcting Action	Timeframe
There is no action which can be taken to mitigate the failure effect.	Since no correcting action is available, timeframe does not apply.