USA Ground Operations CIL Sheet

Critical Item: OC-48 Optical Transmitter Circuit Pack **Criticality Category:** 1

NASA Part No: None **Total Quantity:** 16

Mfg/Part No: Lucent Technologies / 739B2

System: Synchronous Optical Network (SONET)

Find No.	Qty	Area	PMN	Baseline	Drawing / Sheet
9	2	CD&SC	K61-5540	068.25	80K57608 / 5
9	2	SSPF	K61-5541	068.25	80K58245 / 6
9	2	VABR	K61-5542	068.25	80K57609 / 5
9	2	OSB	K61-5543	068.25	80K58990 / 7
9	2	LCC	K61-5544	068.25	80K58033 / 6
9	2	PCC	K61-5545	068.25	80K59046 / 7
9	2	Pad-B	K61-5546	068.25	80K58035 / 6
9	2	Pad-A	K61-5547	068.25	80K58034 / 6

Function:

Provides a high speed interface between sixteen STS-3 electrical signals and the outgoing OC-48 optical signal during flow processing and launch countdown.

Failure Mode No. Failure Mode	Failure Cause Failure Effect	Detection Method Time to Effect	Crit Cat
00030.001 Corruption of data	Electrical failure/product defect/software error Presentation of invalid data to critical user systems if corrupt packet is not detected during transmission. Making a critical decision based on invalid data could result in loss of life/vehicle.	None Seconds	1

ACCEPTANCE RATIONALE

Design:

- Equipment designed to industry standards.
- Underwriters Laboratory (UL) and Canadian Standards Association (CSA) listed.
- Multiple layers of error checking are employed to detect corrupt data packets.
- Dual ring network used where the signal integrity on each ring is monitored. Ring switch will occur on a poc signal indication (loss of signal or signal degredation).

Test:

- System was tested during installation.

Inspection:

- None.

Failure History:

- Current data on test failures, unexplained anomalies, and other failures experienced during ground processi activities can be found in the PRACA database. The PRACA database was researched and no data was fou 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.