

CRITICAL ITEM LIST

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PROJECT: LMO

SYSTEM: CCA

ASSEMBLY NOMENCLATURE: SUMMING MODULE

ASSEMBLY P/N: 16647E

REVISION	NAME, QTY., DRAWING REF. DESIGN	FAILURE MODE AND CAUSE	FAILURE EFFECT ON END ITEM	MORR/FUNC 2/2 CRITICALITY RATIONALE FOR ACCEPTABLE
04-1 04-2 04-3 04-4	Summing Module P/N 16647  QTY - 1	MODE: Fails to pass audio signals, loss of ear- phone functions, loss of microphone functions  CAUSE(S): EEE parts failure. Electrical wire failure (open or shorts).	Loss of communication	DESIGN FEATURES: The summing module design with highly reliability parts. The earphone signals isolate from each other through resistor. The microphone signals are also isolate from each other. The module is hard potted.

CRITICAL ITEM LIST

COH- 29  
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PROJECT: EMU

SYSTEM: CCA

ASSEMBLY NOMENCLATURE: SUMMING MODE

ASSEMBLY P/N: 166476

REVISION	NAME, QTY., DRAWING REF. DESIGN	FAILURE MODE AND CAUSE	FAILURE EFFECT ON END ITEM	HOW/FUNC 2/2 CRITICALITY	RATIONALE FOR ACCEPTANCE
04-1 04-2 04-3 04-4					<p>ACCEPTANCE TEST: The acceptance testing verified that all measureable performance characteristics meet the requirements of the end-item specifications. Environmental testing was not a part of the acceptance testing.</p> <p>Acceptance testing was performed on the end-item (UCEM).</p>

TYPICAL ITEM LIST

PROJECT: LMO

ASSEMBLY P/N: 166476

ASSEMBLY NOMENCLATURE: SUMMING MODULE

REVISION	NAME, QTY., DRAWING REF. DESIGN	FAILURE MODE AND CAUSE	FAILURE EFFECT ON END ITEM	HWNR/FUNC 2/2: RATIONALE FOR ACCEPTANCE CRITICALITY QUALIFICATION TESTS: The CCEM was subjected to a qualification test to demonstrate its capability to perform in or after being exposed to the environment. It is required to operate as specified in NAS9-13132, Exhibit C, Paragraph 5.16.2.1.2. The qualification testing consists of the following tests:  HUMIDITY: MIL-STD-883C, Method 507, Procedure I, was conducted, except that the minimum temperature was 68 degrees F, and maximum temperature was 120 degrees F.  SHOCK: MIL-STD-883C, Method 516, Procedures I and IV - Procedure I was 20g's for 11 milliseconds, and Procedure IV was 50g's for 10 milliseconds.  ATMOSPHERIC COMPATIBILITY: The CCEM was operated in an atmosphere of 100% oxygen at a continuous pressure of 6.2 psia for 24 hours. The temperature was maintained at ambient level for 16 hours and then raised to 120 degrees F and maintained for 8 hours. The same procedure was repeated for a pressure level of 16.5 psia.
04-1 04-2 04-3 04-4				

CRITICAL ITEM LIST

LCM-10  
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PROJECT: EMU

SYSTEM: CCA

ASSEMBLY NOMENCLATURE: SIMMING MODULE

ASSEMBLY P/N: 166976

REVISION	NAME, QTY., DRAWING REF. DESIGN	FAILURE MODE AND CAUSE	FAILURE EFFECT ON END ITEM	IMMR/FUNC 272 NATIONAL IBM ACCEPTANCE CRITICALITY QUALIFICATION TESTS:
04-1 04-2 04-3 04-4				<p>Stabilization of the CCM.</p> <p>Low Temperature: MIL-STD-883C, Method 501, Procedure 1, applied. The temperature was lowered to 0 degrees F and maintained for a period of not less than 4 hours after stabilization.</p> <p>VIBRATION:</p> <p>Vehicle Dynamics</p> <p>Flight Axis (3-40 Hz @ 3 Oct/Min)            3-7 Hz @ 0.52 Inch D.A. Disp            7-15 Hz @ 1.3g Peak            15-20 Hz @ 0.11 Inch D.A. Disp            20-40 Hz @ 2.3g Peak            Lateral Axis (2-20 Hz @ 3 Oct/Min)            2-10 Hz @ 0.014g Peak            10-20 Hz @ 0.035g Peak            Sinusoidal Evaluation (20-2000 Hz @ 1 Oct/Min)            20-130 Hz @ 0.0017 Inch D.A. Disp.            130-2000 Hz @ 1.5g Peak.</p> <p>High Random (1 Min/Axis 3 Axis)            20-40 Hz @ +9 db/oct            40-60 Hz @ 0.1 g<sup>2</sup>/Hz            60-310 Hz @ -6 db/oct            310-750 Hz @ 0.004g<sup>2</sup>/Hz            750-1500 Hz @ -6 db/oct            1500-2000 Hz @ 0.001g<sup>2</sup>/Hz            Composite - 1.4</p>

EMU - 1830

SYSTEM: CCA

ASSEMBLY NOMENCLATURE: SWIRLING MIDDLE

ASSEMBLY P/N: 16647G

REVISION	NAME, QTY., DRAWING REF. DESIGN	FAILURE MODE AND CAUSE	FAILURE EFFECT ON END ITEM	HWR/FUNC 2/2 RATIONALE FOR ACCEPTANCE CRITICALITY
<p>04-1 04-2 04-3 04-4</p>				<p><u>QUALIFICATION TESTS:</u></p> <p>Stabilization of the CCR.</p> <p>Low Temperature: MIL-S10-810, Method 501, Procedure 1, applied. The temperature was lowered to 0 degrees F and maintained for a period of not less than 4 hours after stabilization.</p> <p><u>VIBRATION:</u></p> <p><u>Vehicle Dynamics</u></p> <p>Flight Axis (3-40 Hz @ 3 Oct/Min)            3-7 Hz @ 0.52 inch D.A. Disp            7-15 Hz @ 1.3g Peak            15-20 Hz @ 0.11 inch D.A. Disp            20-40 Hz @ 2.3g Peak            Lateral Axis (2-20 Hz @ 3 Oct/Min)            2-10 Hz @ 0.034g Peak            10-20 Hz @ 0.035g Peak            Sinusoidal Evaluation (20-2000 Hz @ 1 Oct/Min)            20-100 Hz @ 0.0017 inch D.A. Disp.            100-2000 Hz @ 1.6g Peak</p> <p>High Random (1 Min/Axis - 3 Axis)            20-40 Hz @ 19 db/cf            40-60 Hz @ 0.1 g<sup>2</sup>/Hz            60-310 Hz @ -6 db/Oct            310-750 Hz @ 0.014g<sup>2</sup>/Hz            750-1500 Hz @ -6 db/Oct            1500-2000 Hz @ 0.001g<sup>2</sup>/Hz            Composite = 3.4</p>

CRITICAL ITEM LIST

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PROJECT: EMU

SYSTEM: CCA

ASSEMBLY NOMENCLATURE: SWIRLING MODULE

ASSEMBLY P/N: 16647G

REVISION	NAME, QTY., DRAWING REF. DESIGN	FAILURE MODE AND CAUSE	FAILURE EFFECT ON END ITEM	<p>NOHR/FUNC: 2/2      RATIONALE FOR ACCEPTANCE</p> <p><b>CRITICALITY</b></p> <p><b>QUALIFICATION TESTS:</b>                      Low Random (4 Min/Axis, 3 Axes)                      20-40 Hz @ +9 db/Oct                      40-60 Hz @ 0.025g<sup>2</sup>/Hz                      60-310 Hz @ -6 db/Oct                      310-750 Hz @ 0.001g<sup>2</sup>/Hz                      750-1500 Hz @ -6 db/Oct                      1500-2000 Hz @ 0.00025g<sup>2</sup>/Hz                      Composite = 1.7 gms.</p> <p><b>EMI:</b> Test per SL-E-0002                      A. CS01 - Limit 1.2 VMS per Figure 2 of ICDS-HSD-4-0008-0C                      B. CS02 - Limit 0.22 VMS                      C. CS06 - Limit 5V per Figures 3 and 4 of ICDS-HSD-4-0008-0C                      D. RS03</p> <p>Tests were also performed in accordance with EMI-NIL-1-26600/EMI 31A.</p> <p><b>OPERATIONAL TESTS:</b>                      The following tests verify the microphone has not failed prior to going LVA.</p> <p><b>KSC:</b> Un-Initiated MINSO V110J</p> <p><b>FLIGHT CHECKOUT:</b> Pre-LVA checkout during a mission.</p>
04-1 04-2 04-3 04-4				

PROJECT: END

ASSEMBLY NOMENCLATURE: SWIMMING MODEL

SYSTEM: CCA

ASSEMBLY P/N: 166476

REVISION	NAME, QTY., DRAWING REF. DESIGN	FAILURE MODE AND CAUSE	FAILURE EFFECT ON END ITEM	NDWA/FUNC 2/2 CRITICALITY RATIONALE FOR ACCEPTANCE
04-1 04-2 04-3 04-4				<p><b>QA INSPECTION:</b></p> <p>The CCEH is manufactured, assembled and tested to flight-approved JSC drawings and procedures. The drawings have been approved by Quality Engineering, Materials and Structures, and are maintained by the JSC Drawing Control Center. Quality controls are exercised throughout design procurement, planning, processing, fabrication, assembly qualification and acceptance testing. Mandatory inspection points are employed as appropriate at various levels of assembly and tests.</p> <p>Receiving inspection verifies that the parts and components received are as identified in the procurement documents, that no damage has occurred during shipment, and that appropriate data have been received which provides adequate traceability information and identifies acceptable parts.</p> <p>Parts are inspected, as appropriate, throughout manufacture and assembly.</p>

CRITICAL ITEM LIST

CCM- 15  
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PROJECT: EMU

SYSTEM: CCA

ASSEMBLY NOMENCLATURE: SUNNING MODEL

ASSEMBLY P/N: 166476

REVISION	NAME, QTY., DRAWING REF. DESIGN	FAILURE MODE AND CAUSE	FAILURE EFFECT ON END ITEM	IDWR/FUNC 2/2 CRITICALITY RATIONALE FOR ACCEPTANCE
D4-1 D4-2 D4-3 D4-4				<p><b>QA INSPECTION (Continued):</b></p> <p>Pre-acceptance test inspection, which includes an inspection of the lower assemblies on completion, a verification of the as-built configuration to the design, etc., (mandatory inspection points).</p> <p><b>FAILURE HISTORY:</b></p> <p>None</p> <p><b>OPERATIONAL EFFECTS:</b></p> <p>0 None during and EVA</p> <p>0 During a planned EVA mission, a spare CCA is available and can be used if failure is detected in the Pre-EVA phase of the mission.</p> <p>0 For an unplanned EVA, redundant is loss.</p>



PROJECT:

ASSEMBLY NOMENCLATURE: SIMMING MODEL

SYSTEM: ECA

ASSEMBLY P/N: 166476

REVISION	NAME, QTY., DRAWING REF. DESIGN	FAILURE MODE AND CAUSE	FAILURE EFFECT ON END ITEM	HOM/FUNC 2/2 CRITICALITY	RATIONAL TH ACCEPTANCE
04-1 04-2 04-3 04-4				CREW TRAINING:	
				Comm Class 2120 EVA Exercise	
				MISSION CONSTRAINT:	
				Loss of communication	
				Loss of EVA	