IMPORTANT: This form must be completed before submitting artwork to Purchasing and/or ordering blank PCBs.

1	**Tracking Information**			
PCB Part Number: D3005H100-D01 Portable Tester PCB			**Issue Level: A**	
ECO Number: 14838			**Charge Number:** 5552267-0827	
2	**Specification Requirements** – *choose only one from each category.*			
Are there any safety critical circuits on this PCB assembly?	☐ YES	☒ NO		
Does the PCB assembly perform a safety-critical (vital) function as it is applied on this job?	☐ YES	☐ NO		
Do chassis ground or all metal structures which are connected to chassis have 0.1" isolation zone clearance from all other signals on this PCB?	☐ YES	☐ NO	☒ DOES NOT APPLY	
Do all battery level signals have 0.1" isolation zone clearance from non-battery signals on this PCB?	☐ YES	☐ NO	☒ DOES NOT APPLY	
Do all isolated vital output signals (examples Magnet Valve (+/-), Brake Penalty (+/-), Vital Relay Control (+/-), Vital Relay contact signals (+/-), and Door circuits (+/-) have 0.1" isolation zone clearance from all signals on this PCB?	☐ YES	☐ NO	☒ DOES NOT APPLY	
Do the Main (+) VPS signal and its associated vital output signals have 0.030" reliability zone clearance from all signals on the Main PCB?	☐ YES	☐ NO	☒ DOES NOT APPLY	
Do the Main (+) VPS signal and its associated vital output signals have 0.030" reliability zone clearance from all signals on the Cab Test PCB?	☐ YES	☐ NO	☒ DOES NOT APPLY	
Do the Main (+) VPS signal and its associated vital output signals have 0.030" reliability zone clearance from all signals on the Interface PCB?	☐ YES	☐ NO	☒ DOES NOT APPLY	
Do the Main (+) VPS signal and its associated vital output signals have 0.030" reliability zone clearance from all signals on the Mother PCB?	☐ YES	☐ NO	☒ DOES NOT APPLY	
Do the Main (+) VPS signal and its associated vital output signals have 0.030" reliability zone clearance from all signals on the EMI PCB?	☐ YES	☐ NO	☒ DOES NOT APPLY	
Do the Main (+) VPS signal and its associated vital output signals have 0.030" reliability zone clearance from all signals on the Connector PCB?	☐ YES	☐ NO	☒ DOES NOT APPLY	
Do the I/O (+) VPS signal and its associated vital output signals have 0.030" reliability zone clearance from all signals on the I/O PCB?	☐ YES	☐ NO	☒ DOES NOT APPLY	
Do the I/O (+) VPS signal and its associated vital output signals have 0.030" reliability zone clearance from all signals on the Cab Test PCB?	☐ YES	☐ NO	☒ DOES NOT APPLY	
Do the I/O (+) VPS signal and its associated vital output signals have 0.030" reliability zone clearance from all signals on the Interface PCB?	☐ YES	☐ NO	☒ DOES NOT APPLY	
Do the I/O (+) VPS signal and its associated vital output signals have 0.030" reliability zone clearance from all signals on the Mother PCB?	☐ YES	☐ NO	☒ DOES NOT APPLY	
Do the I/O (+) VPS signal and its associated vital output signals have 0.030" reliability zone clearance from all signals on the EMI PCB?	☐ YES	☐ NO	☒ DOES NOT APPLY	

2 **Specification Requirements, continued** – *choose only one from each category.*			
Do the I/O (+) VPS signal and its associated vital output signals have 0.030" reliability zone clearance from all signals on the Connector PCB?	☐ YES	☐ NO	☒ DOES NOT APPLY
Do all isolated vital input signals (examples Magnet Valve (+/-), Brake Penalty (+/-), input signals from other safety system) have 0.1" isolation zone clearance from all signals on this PCB?	☐ YES	☐ NO	☒ DOES NOT APPLY
Do the AIU PCB'S (+) VPS signal and its associated vital output signals have 0.030" reliability zone clearance from all signals on this PCB?	☐ YES	☐ NO	☒ DOES NOT APPLY
Do the ADU PCB'S (+) VPS signal and its associated vital output signals have 0.030" reliability zone clearance from all signals on this PCB?	☐ YES	☐ NO	☒ DOES NOT APPLY

Design Engineer: Describe and justify any deviations from the safety design guidelines in this space.

Note: If deviations exist, the Design Engineer must obtain approval from the Electrical Manager and the Safety Engineer before the PCB layout proceeds.

3	Approvals (PCB Schematic)		
Design Engineer (First Last):		Signature:	Date (MM/DD/YYYY):
Safety Engineer (First Last):		Signature:	Date (MM/DD/YYYY):
4	Approvals (If Deviations Exist)		
Electrical Manager (First Last):		Signature:	Date (MM/DD/YYYY):
Safety Engineer (First Last):		Signature:	Date (MM/DD/YYYY):
5	Approvals (If No Deviations Exist) – *See Instructions section below, notes 4 through 6.*		
Design Engineer or PCB Layout Checker (First Last):		Signature:	Date (MM/DD/YYYY):
Responsible Engineer or Electrical Manager (First Last):		Signature: Steve Guo	Date (MM/DD/YYYY): 7/10/19
Safety Engineer (First Last):		Signature: Steve Guo	Date (MM/DD/YYYY): 7/10/19

Instructions

To successfully complete the PCB Approval Form, follow the instructions below:

IMPORTANT: When the first draft of the PCB Schematic is generated, the Design Engineer must provide a copy to the Safety Engineer as soon as possible. This allows the Design Engineer and Safety Engineer to review the initial design in parallel. If additional changes to the schematic are made (i.e., a new release), the Design Engineer must provide a copy to the Safety Engineer for review. Please refer to the latest revision of document W-00195 "Hardware Techniques for Fail-Safe Design" to aid with proper circuit design.

1. The Design Engineer must complete Sections 1 and 2 of this form.
2. Once all iterations of the schematic are complete, the Design Engineer and Safety Engineer must approve the schematic by signing the form (See Section 3), and then PCB Layout can proceed.
3. If there are safety deviations in the design, the Electrical Manager and Safety Engineer must approve these deviations before the design process moves forward (See Section 4).
4. If no safety deviations exist, the Design Engineer or PCB Layout Checker signs the form after verifying that the blank PCB, schematic, and the assembly drawing are correct and satisfy design and safety guidelines (See Section 5).
5. The Responsible Engineer or Electrical Manager signs the form to verify the above steps have been completed (See Section 5).
6. The Safety Engineer signs the form after verifying that all of the safety guidelines are satisfied and correct (See Section 5).
7. The Design Engineer scans all pages of the form and renames the final version of the electronic form to include the PCB part number and copper issue letter (e.g., D7710H0123-A-APPROVAL.pdf).
8. The Design Engineer then e-mails the form to PCB Drafting so that it is archived in the appropriate PCB Drafting folder.
9. The original signed hardcopy of this Approval form must be attached to the ECO before the ECO can be signed off by the Design Engineer.
10. PCB Drafting creates the Artwork and sends the document package to purchasing for ordering purposes.