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| Test Writer | | Kyle Harlow | | | | | |
| Test Case Name | | Backplane Integration Test-PWM | | | | Test ID# | B-IT-2 |
| Description | | Verify Voltage PWM of Backplane and Connectivity of Control Board | | | | Type | Black-Box |
| Test Information | | | | | | | |
| Name of Tester | |  | | | | Date |  |
| Hardware Version | | Backplane 1.0 | | | | Time |  |
| Setup | | Attach power supply, capable of providing up to 10A at 16V, to the high and ground terminals of the backplane. Set voltage output to 14.8V, the nominal voltage for the lithium ion batteries. Prepare oscilloscope to measure 5V PWM signals. Place Control Board in the control board slot on the backplane.Turn on output of power supply. Connect USB to control board. Upload pwm output code. Set control board to send default 1.5ms PWM signals to all outputs. | | | | | |
| Step | Action | Expected Results | Pass | Fail | N/A | Comments | |
| 1 | Measure output of PWM 1 Header | Output measures PWM 1.5+/-0.02ms pulse width |  |  |  |  | |
| 2 | Measure output of PWM 2 Header | Output measures PWM 1.5+/-0.02ms pulse width |  |  |  |  | |
| 3 | Measure output of PWM 3 Header | Output measures PWM 1.5+/-0.02ms pulse width |  |  |  |  | |
| 4 | Measure output of PWM 4 Header | Output measures PWM 1.5+/-0.02ms pulse width |  |  |  |  | |
| 5 | Measure output of PWM 5 Header | Output measures PWM 1.5+/-0.02ms pulse width |  |  |  |  | |
| 6 | Measure output of PWM 6 Header | Output measures PWM 1.5+/-0.02ms pulse width |  |  |  |  | |
| 7 | Measure output of PWM 7 Header | Output measures PWM 1.5+/-0.02ms pulse width |  |  |  |  | |
| 8 | Measure output of PWM 8 Header | Output measures PWM 1.5+/-0.02ms pulse width |  |  |  |  | |
| 9 | Reset Control Board. Turn off power supply. Remove Control Board from slot. | None |  |  |  |  | |
| Overall Results | | |  |  |  |  | |