ochin_CM4v2 Hardware test number 1

Power Supply circuits:

Forward Voltage circuit

Devices used for tests

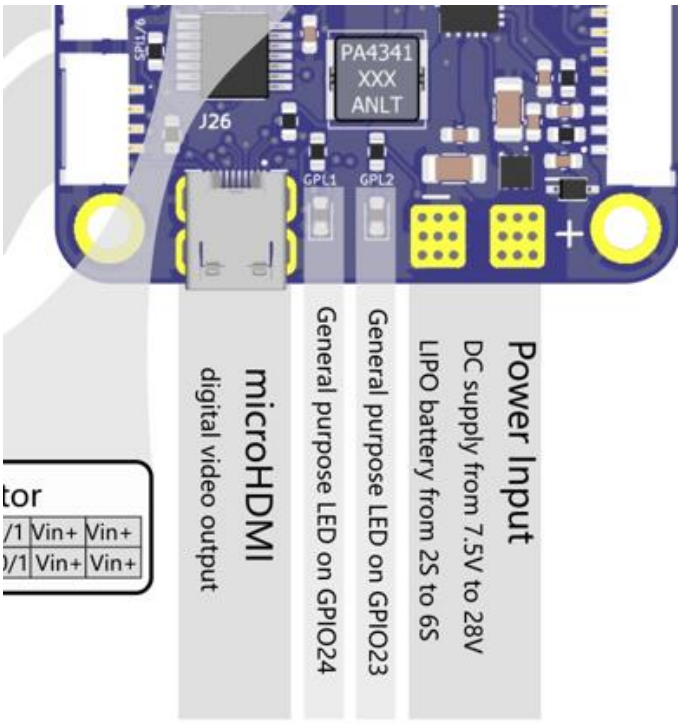
1. ochin CM4 carrier board
2. Raspberry Pi CM4 module with eMMC
3. Multimeter
4. Power Supply 0-30Vdc

Test description

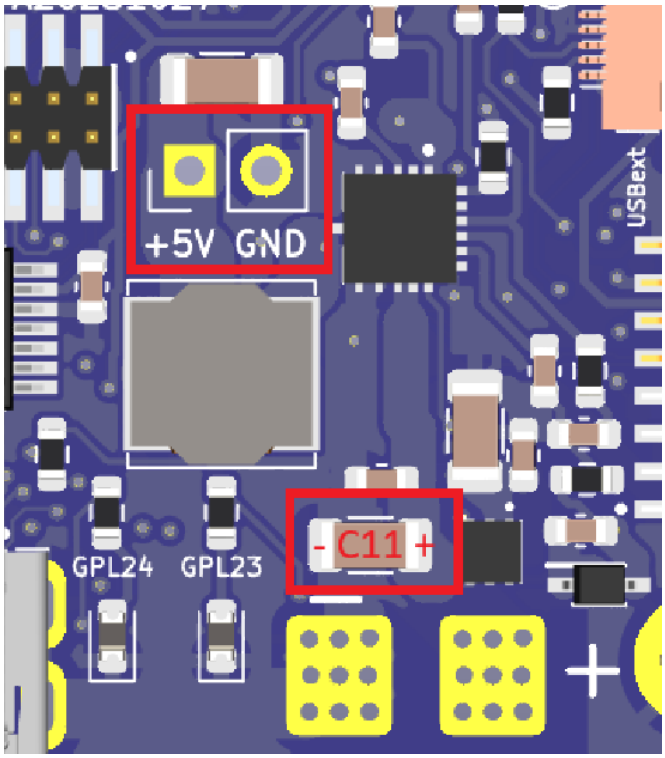
This test is intended to verify the operation of the power supply circuit for the CM4 module. First you need to check that the reverse voltage protection mosfet lets the input voltage pass. Secondly, it is necessary to measure that 5Vdc is present on the output of the switching regulator for the power supply of the Raspberry Pi CM4 module.

Test execution

1. In this phase the CM4 module **SHOULD NOT BE MOUNTED** on the ochin carrier board since it is not needed for the test.
2. Apply a voltage between 7,5Vdc and 25Vdc on the power pads. The positive pole is the one on the right and the negative pole is on the left (top view).



3. Verify the voltage on the source pin of the SIA471DJ mosfet, placing the multimeter across the C11 capacitor. The voltage pass through the mosfet and we should find on C11 the same voltage of Vin.
4. If the voltage on C11 is fine, it is possible to verify the +5V on the output of the switching regulator. To check the +5Vdc we can measure the voltage on the pads close to the inductor.



Test results

The test was performed numerous times on different boards and never presented any problems.

Test Passed