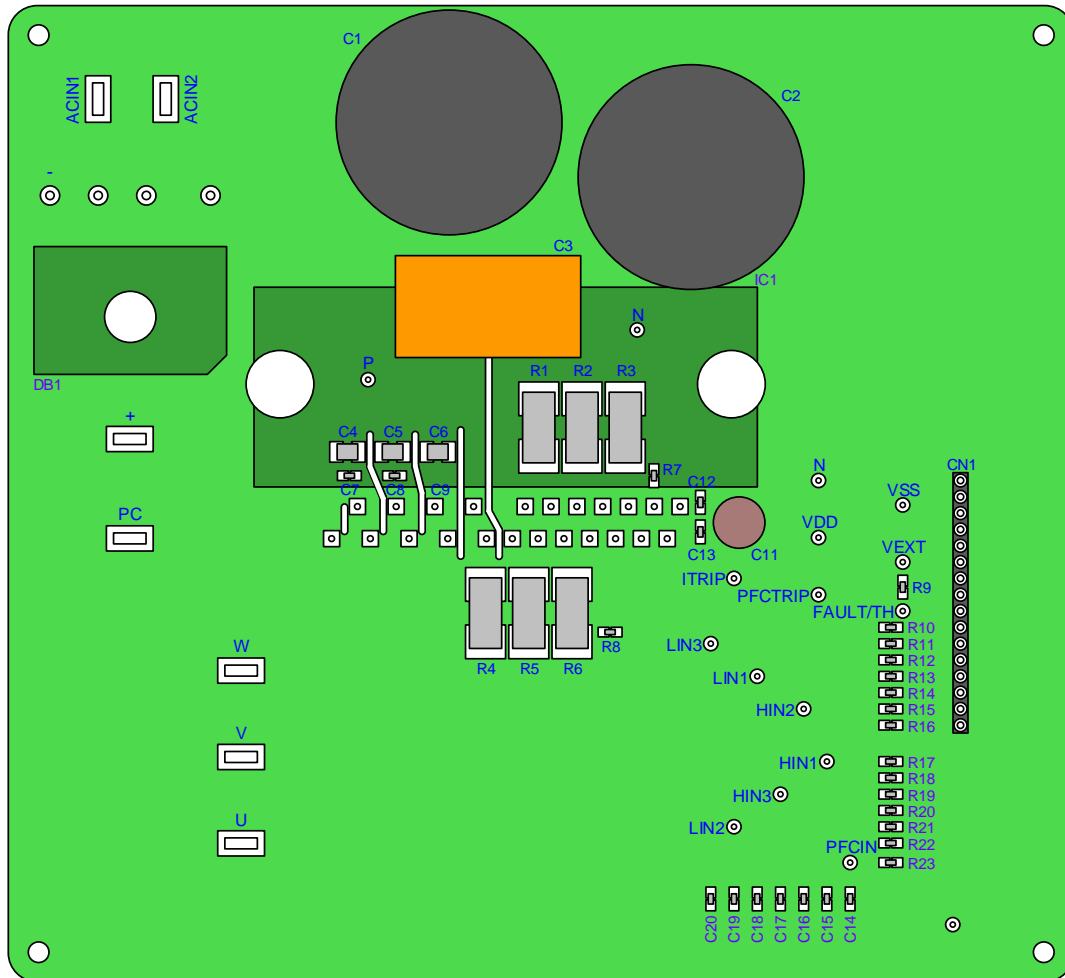


Test Procedure for the STK5MFU3C1AGEVB Evaluation Board

Description of each pin

Transparent view from top side

* IC1, DB1, R10-23, C10, C14-20 are arranged on backside.



U, V, W : 3 phase inverter output

VDD : Control power supply (DC15V)

VSS : Signal GND

PC : Rectified AC voltage input

HINx, LINx, PFCIN : Control signal input

ITRIP : Over-current protection for Inverter

PFCTRIP : Over-current protection for PFC

VEXT : FAULT/TH pull-up

Apply the logic I/O voltage

FAULT/TH : Fault output, Thermistor

ACIN1, ACIN2 : Bridge diode AC voltage input

+, - : Bridge diode output

R1-6 : Shunt resistor, 3 parallel connection

R7 (, C12) : RC filter for ITRIP

R8 (, C13) : RC filter for PFCTRIP

R9 : Pull-up to VEXT (FAULT/TH)

R10-16, C14-20 : Low pass filter for signal input

Prevention malfunction by noise

R17-23 : Pull-down to VSS for signal input

Prevention malfunction by external wiring

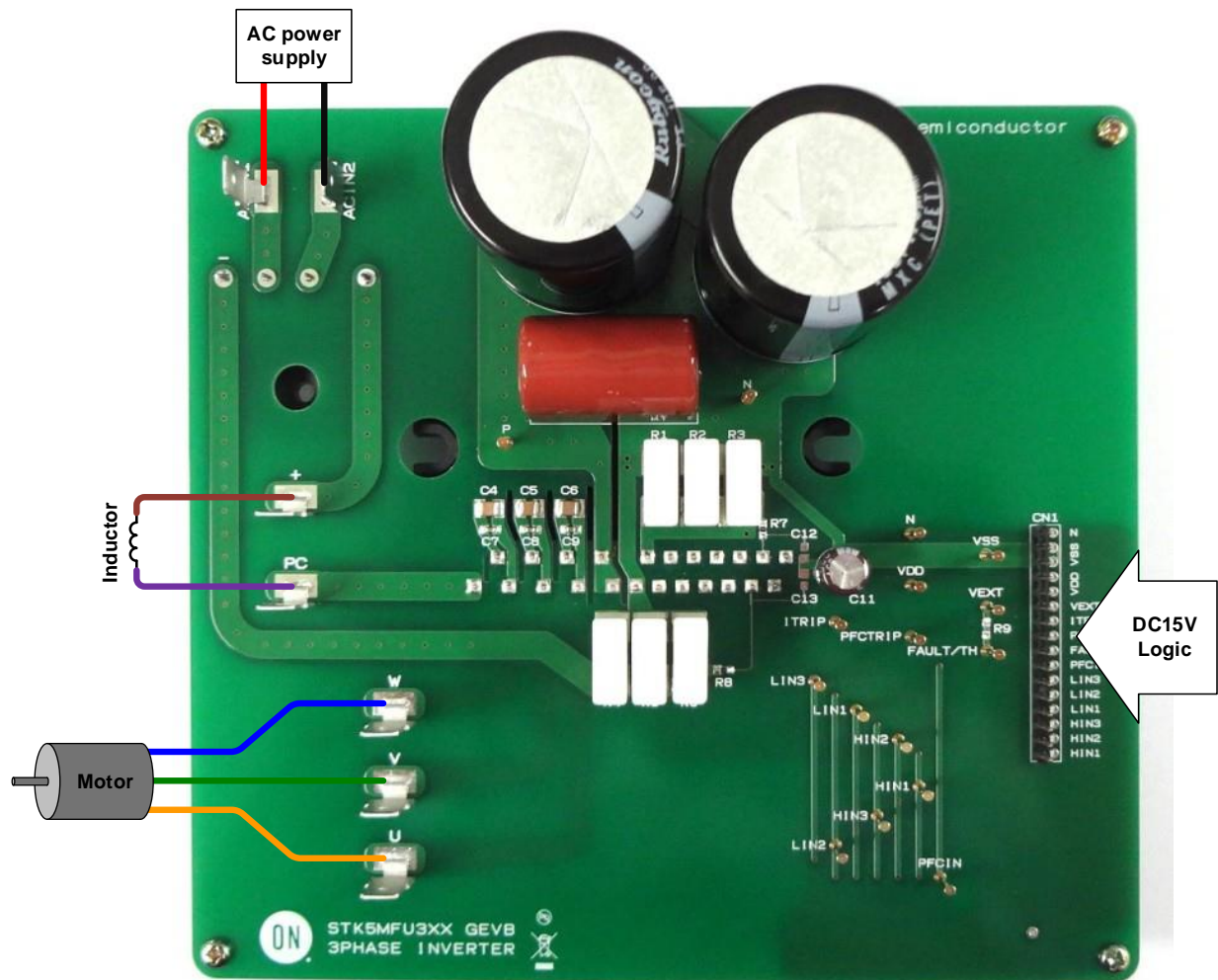
C4-6 : Boot strap capacitor

Blue : Arranged on top side

Purple : Arranged on back side

* C10 is arranged on back position of C12 and C13

Operation procedure



- Step1:** Connect IPM, the three power supplies, logic parts, inductor and the motor to the evaluation board, and confirm that each power supply is OFF at this time.
- Step2:** Apply DC15V to VDD and the logic I/O voltage to VEXT.
- Step3:** Perform a voltage setup according to specifications, and apply AC power supply between ACIN1 and ACIN2.
- Step4:** The IPM will start when signals are applied. The low-side inputs must be switched on first to charge up the bootstrap capacitors.

Note : When turning off the power supply part and the logic part, please carry out in the reverse order to above steps.