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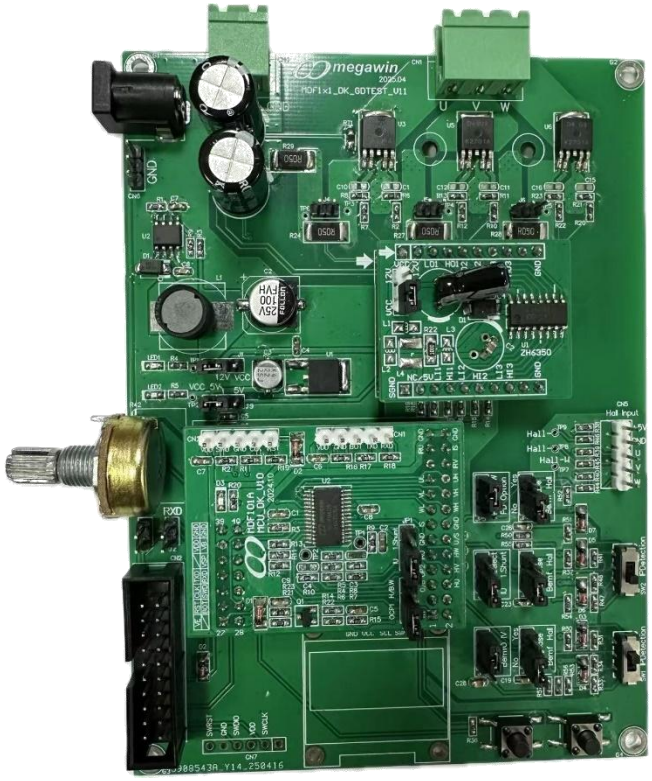
MDF1x1A Series
EVB platform introduction

Version: v1.1

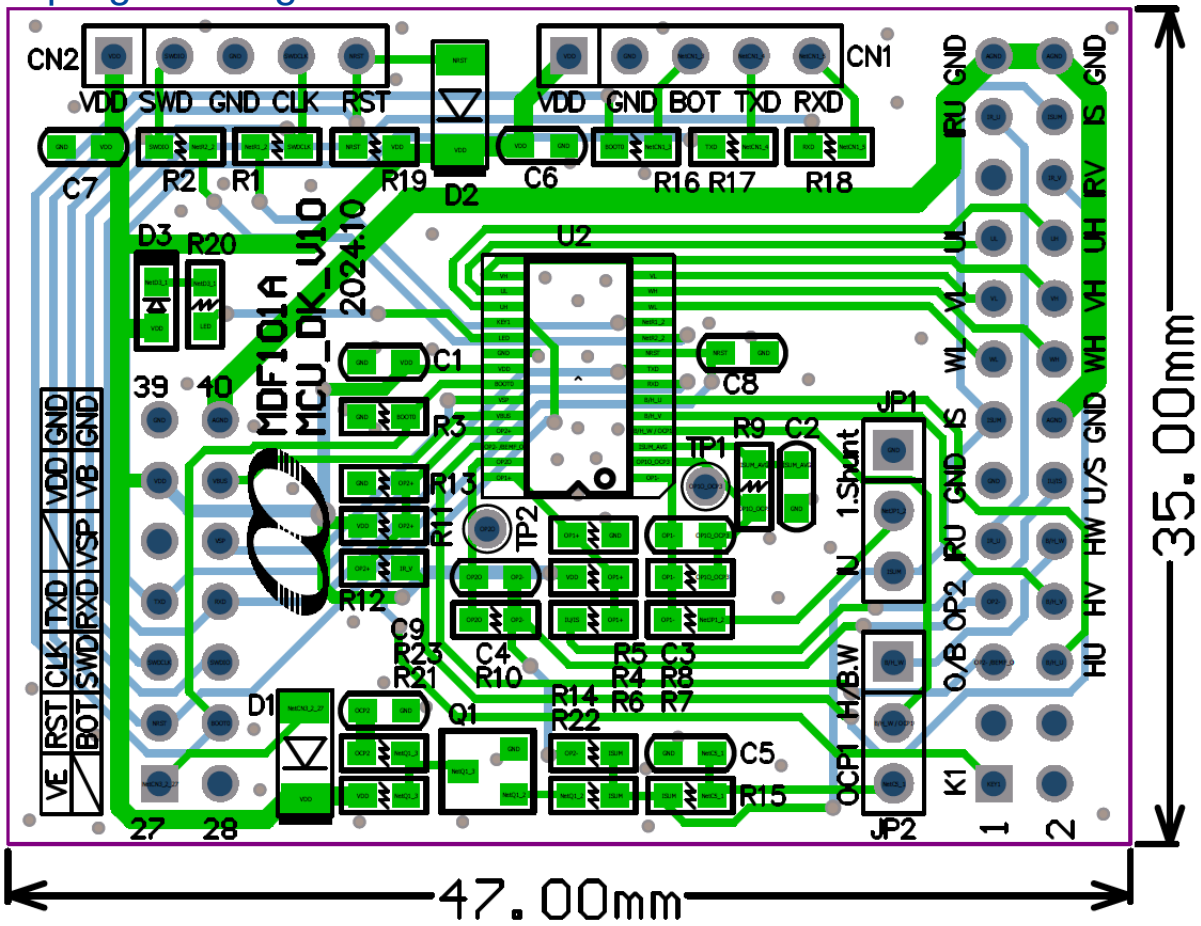
EVB：MDF101 + 40V P/N Gate Driver

- MDF1x1_DK_GDTEST_V11
  - MDF101 MCU board (TSSOP28)
  - 40V P/N Gate Driver board
  - MDF101 Main board



MDF101 MCU board (TSSOP28)

programming interface　　UART interface



JP1 option：

1.Shunt → FOC 1R (Resistor)

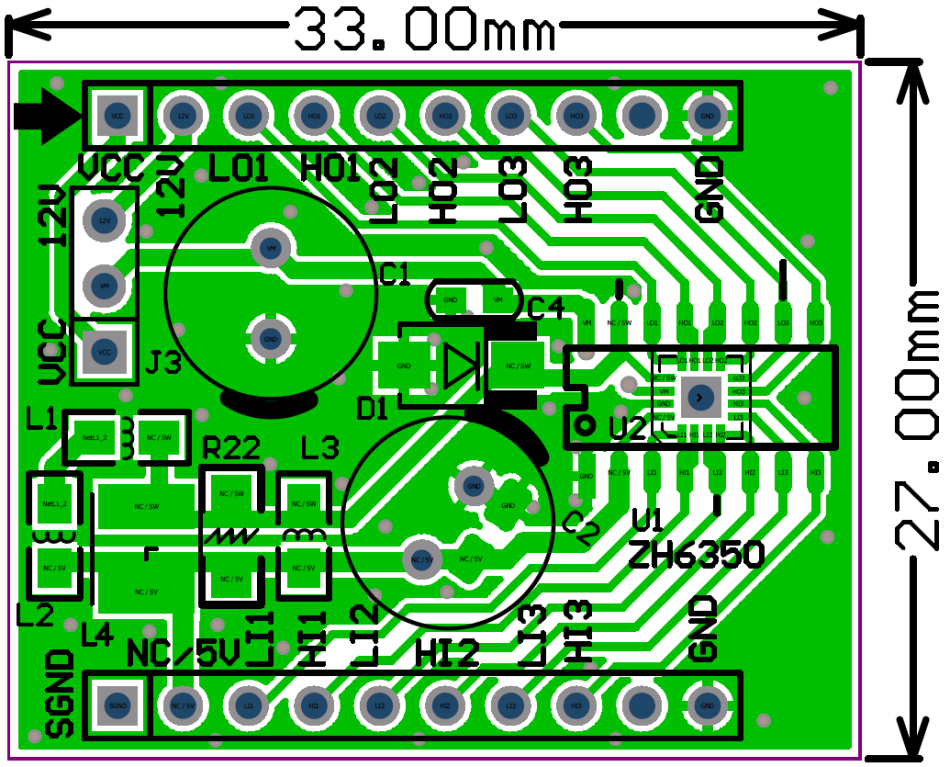
IU → FOC 2R (Resistors)

JP2 option：

OCP1 → OCP circuits

H/B.W → HALL or BEMF W

40V P/N Gate Driver board



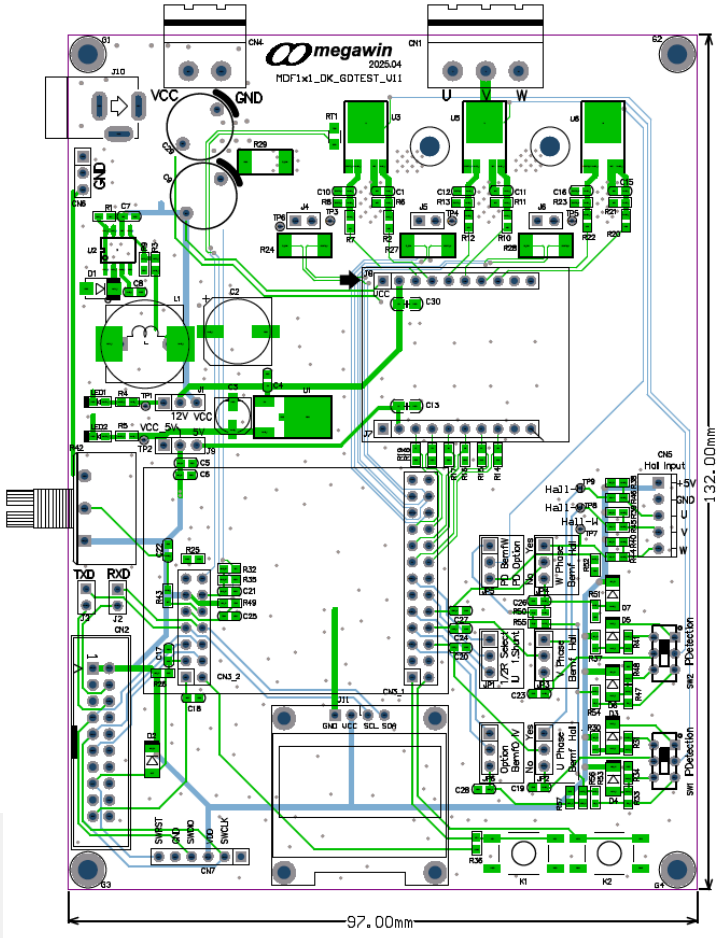
J3 option：

VM Pin input source

MDF101 Main board

VBus in 12V~24V

Motor UVW output



J1： 12V Power Supply Option

DC-DC or direct VBus input

J9： 5V Power Supply Option

LDO 5V or GATE DRIVER LDO_5V

JP1 option：

1.Shunt → FOC 1R (Resistor)

IU → FOC 2R (Resistors)

JP2 / JP3 / JP4： BEMF or HALL input

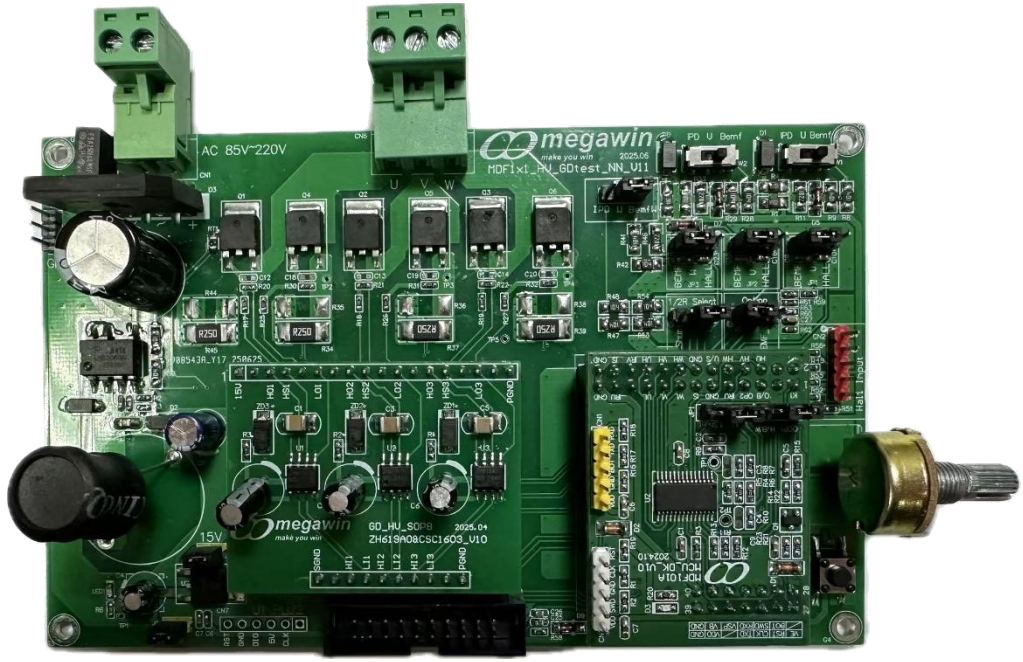
Selection the HALL sensor is used or not

JP6： FOC 2R or BEMF neutral point

SW1 / SW2 Select 2, 3 & 4, 5 PINs downwards

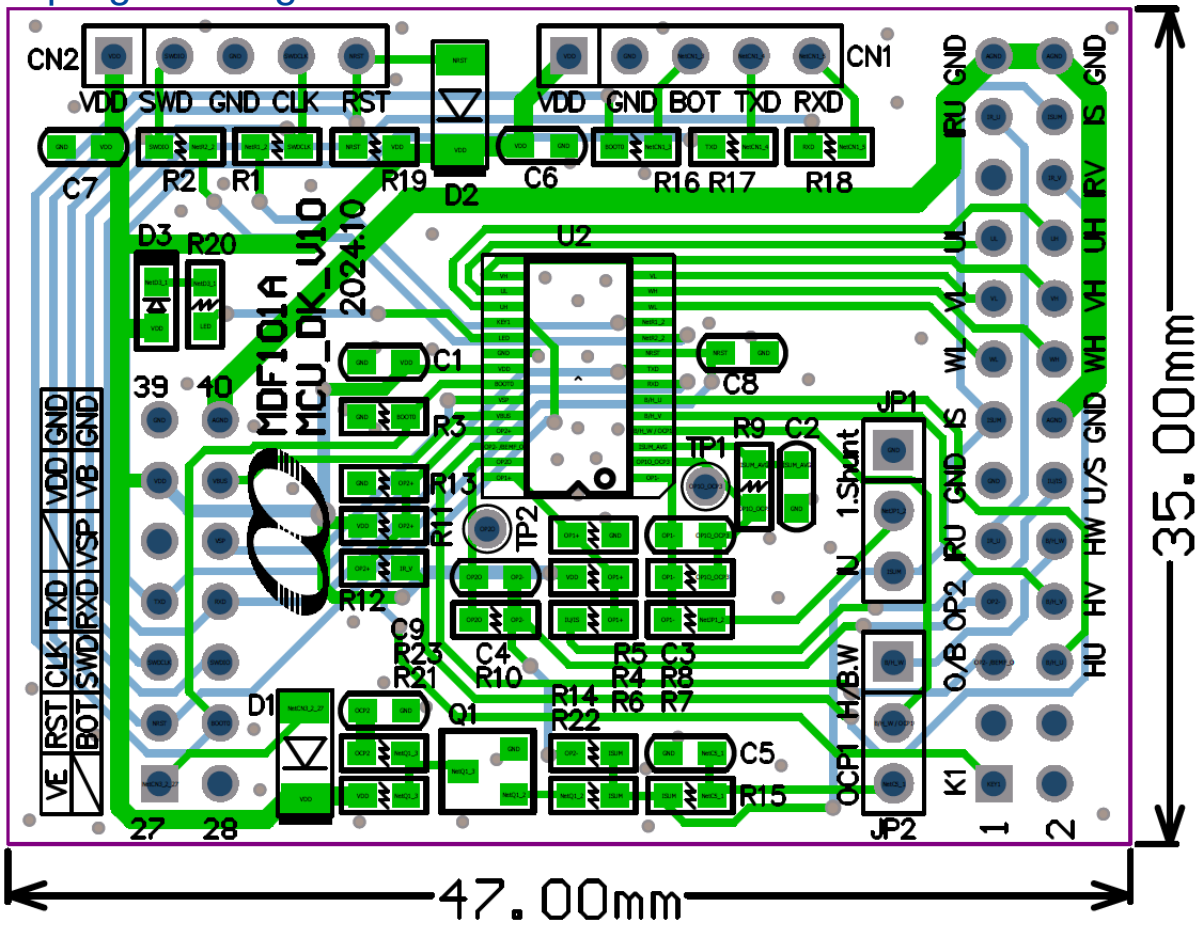
EVB：MDF101 + 600V N/N Gate Driver

- MDF1x1_HV_GDTEST_NN_V11
  - MDF101 MCU board (TSSOP28)
  - 600V N/N Gate Driver board
  - MDF101 Main board



MDF101 MCU board (TSSOP28)

programming interface　　UART interface



JP1 option：

1.Shunt → FOC 1R (Resistor)

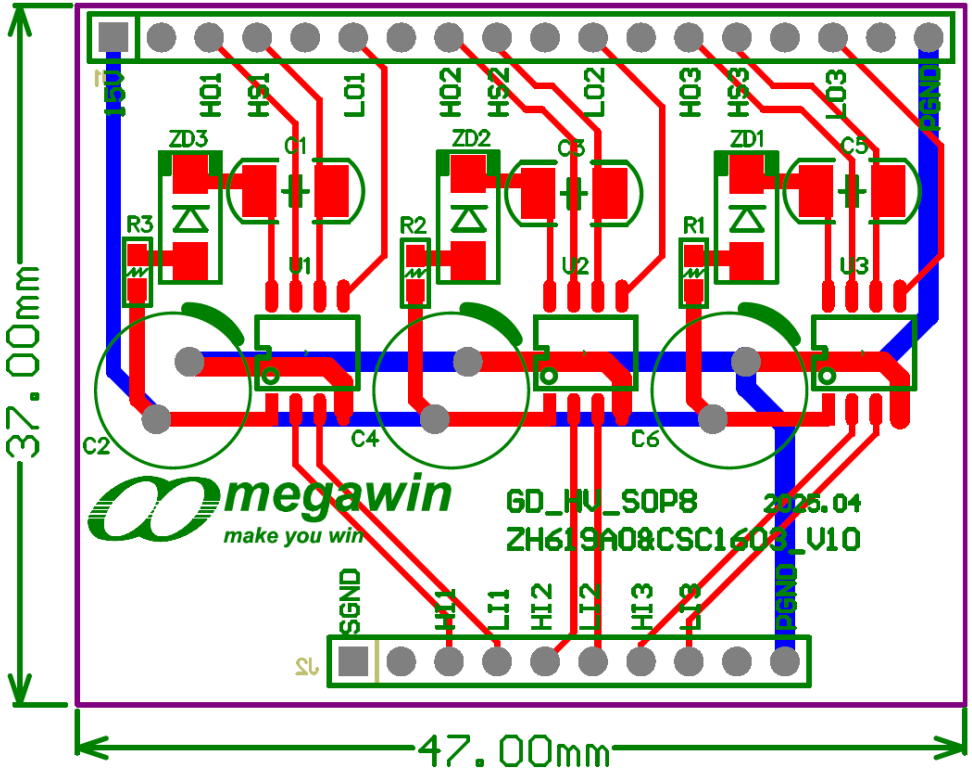
IU → FOC 2R (Resistors)

JP2 option：

OCP1 → OCP circuits

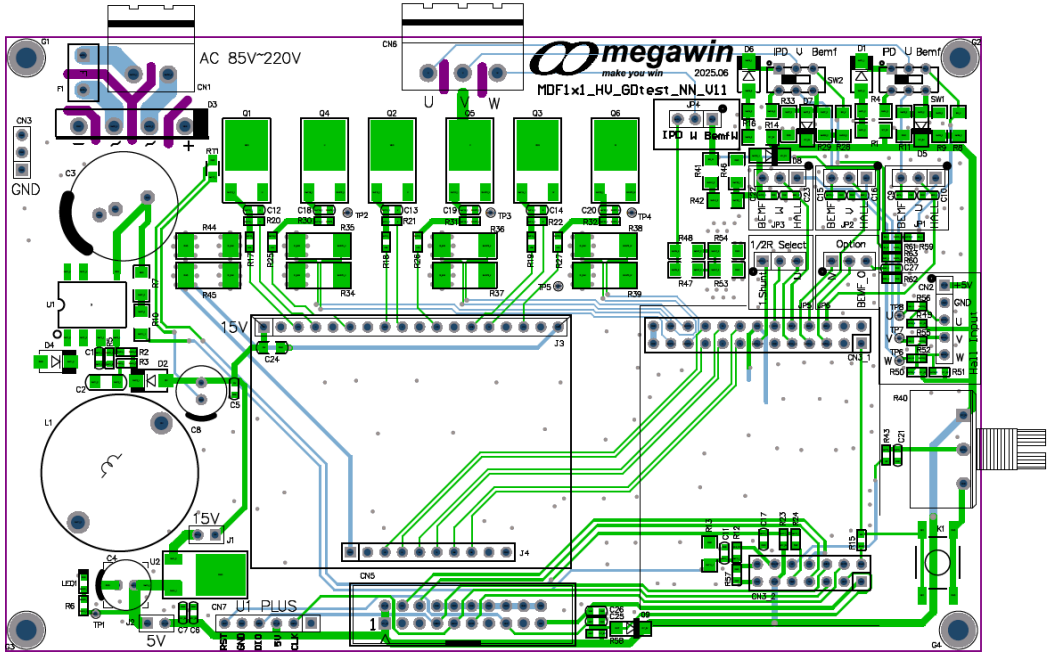
H/B.W → HALL or BEMF W

600V N/N Gate Driver board



MDF101 Main board

AC in 85V~220V　　Motor UVW output



J1： 12V Power Supply Option

DC-DC or direct VBus input

J2： 5V Power Supply Option

LDO 5V or GATE DRIVER LDO_5V

JP1 / JP2 / JP3： BEMF or HALL input

Selection the HALL sensor is used or not

JP4： Select BEMF W

JP5 option：

1.Shunt → FOC 1R (Resistor)

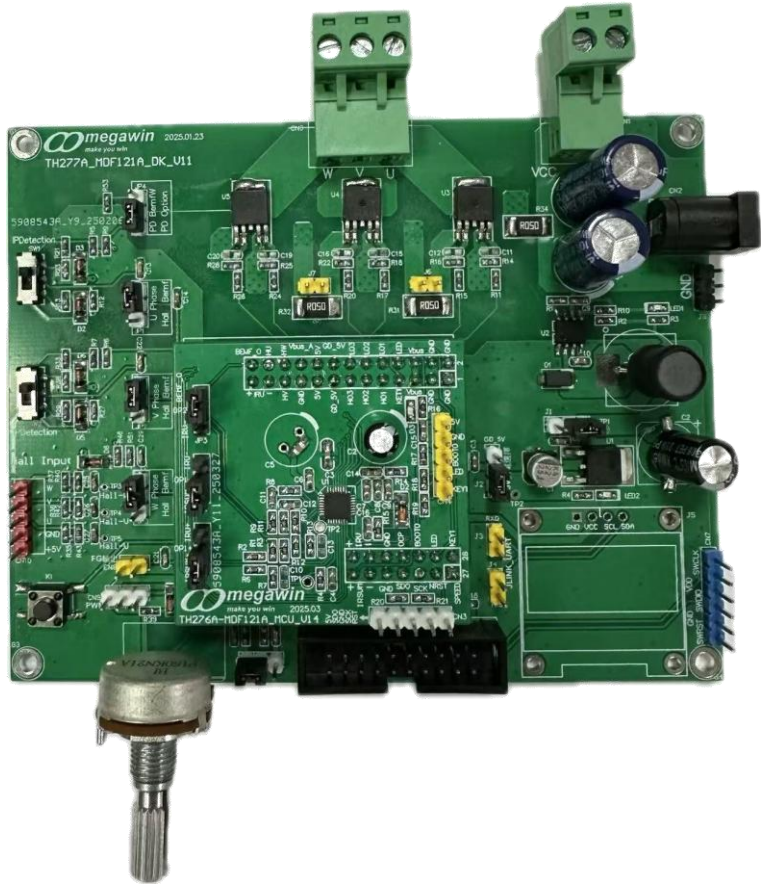
IU → FOC 2R (Resistors)

JP6： FOC 2R or BEMF neutral point

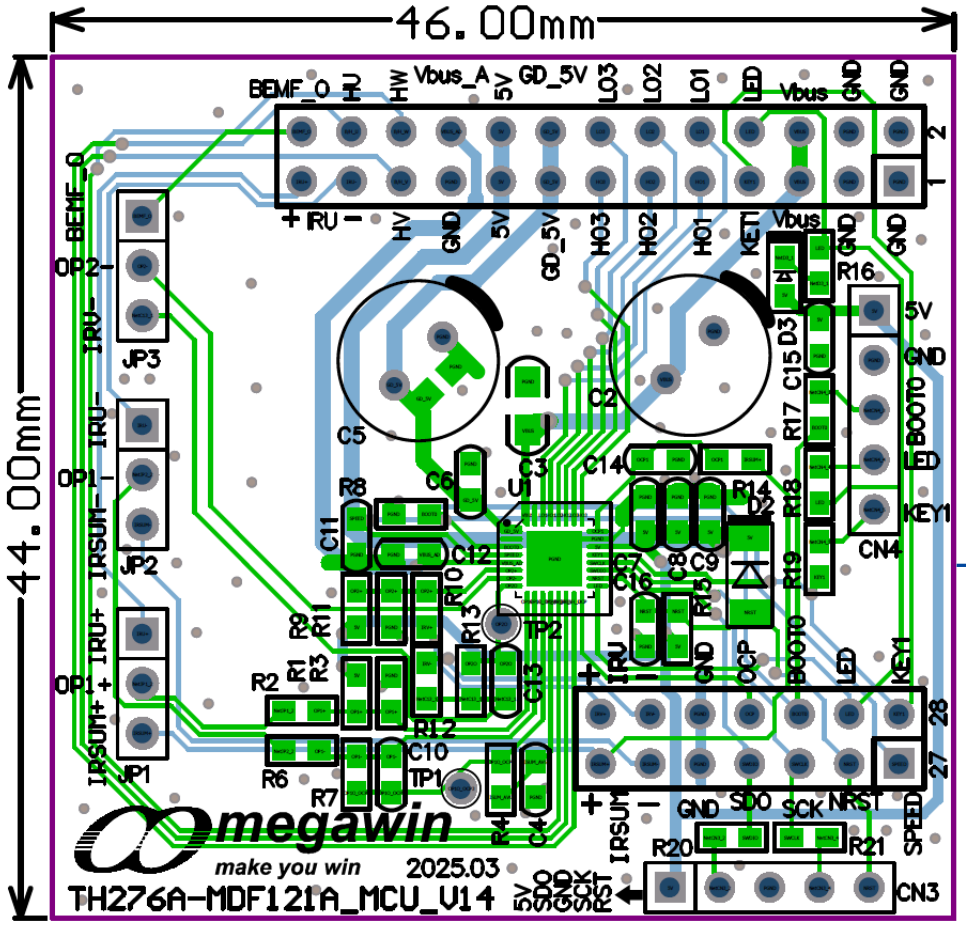
SW1 / SW2 Select 2, 3 & 4, 5 PINs downwards

EVB：MDF121 (Built-in 40V P/N Gate Driver)

- MDF121_DK_V11
  - TH276A_MDF121 MCU board (QFN32)
  - TH277A_MDF121 Main board



TH276A_MDF121 MCU board (QFN32)



Test use

JP1： OP1+ input option

IRSUM+ → FOC 1R (Resistor)

IRU+ → FOC 2R (Resistors)

JP2： OP1- input option

IRSUM- → FOC 1R (Resistor)

IRU- → FOC 2R (Resistors)

JP3： OP2- input option

IRV- → FOC 2R (Resistors)

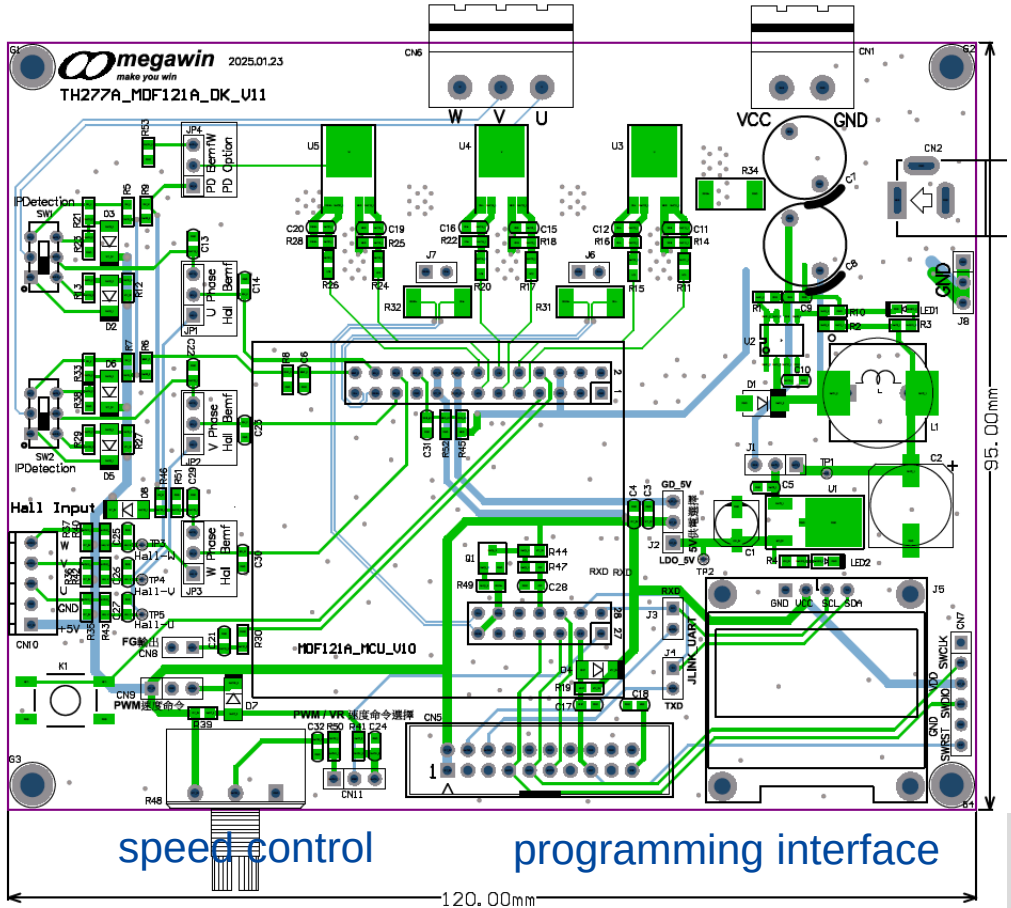
BEMF_O → Sensorless Square Wave

programming interface

TH277A_MDF121 Main board

Motor UVW output

VBus in 12V~24V



speed control

programming interface

J1： 12V Power Supply Option

DC-DC or direct VBus input

J2： 5V Power Supply Option

LDO 5V or GATE DRIVER LDO_5V

JP1 / JP2 / JP3： BEMF or HALL input

Selection the HALL sensor is used or not

JP4： BEMF W or IPD signal Option

Selection the BEMF W

CN11： Speed command input Option

VR → Left PWM → Right

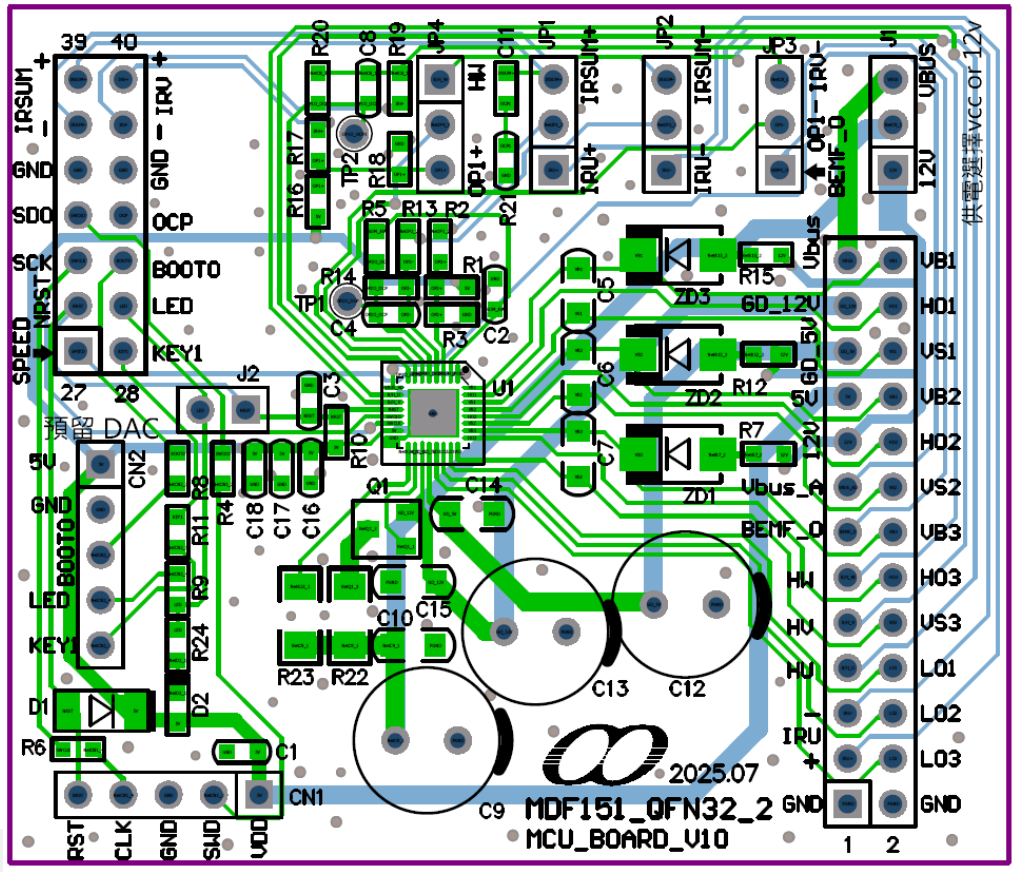
SW1 / SW2 Select 2, 3 & 4, 5 PINs downwards

EVB：MDF151 (Built-in 100V N/N Gate Driver)

- MDF151_DK_V11
  - TH281A_MDF151 MCU board (QFN32)
  - TH282A_MDF151 MCU board (QFN40)
  - TH283A_MDF151 MCU board (LQFP48)
  - TH284A_MDF151 Main board

TH281A_MDF151 MCU board (QFN32)

Test use



programming interface

JP1： OP1+ input option

IRSUM+ → FOC 1R (Resistor)

IRU+ → FOC 2R (Resistors)

JP2： OP1- input option

IRSUM- → FOC 1R (Resistor)

IRU- → FOC 2R (Resistors)

JP3： OP2- input option

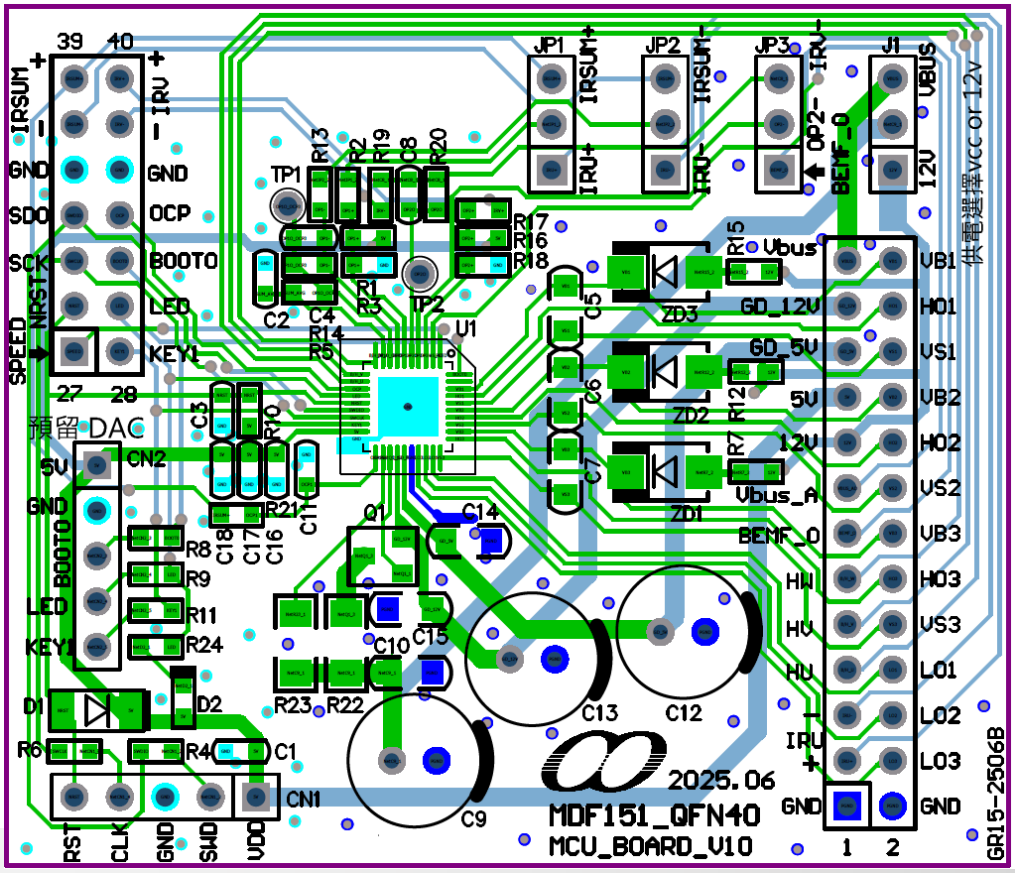
IRV- → FOC 2R (Resistors)

BEMF_O → Sensorless Square Wave

J1： Power input select DC-DC or VCC

TH282A_MDF151 MCU board (QFN40)

Test use



programming interface

JP1： OP1+ input option

IRSUM+ → FOC 1R (Resistor)

IRU+ → FOC 2R (Resistors)

JP2： OP1- input option

IRSUM- → FOC 1R (Resistor)

IRU- → FOC 2R (Resistors)

JP3： OP2- input option

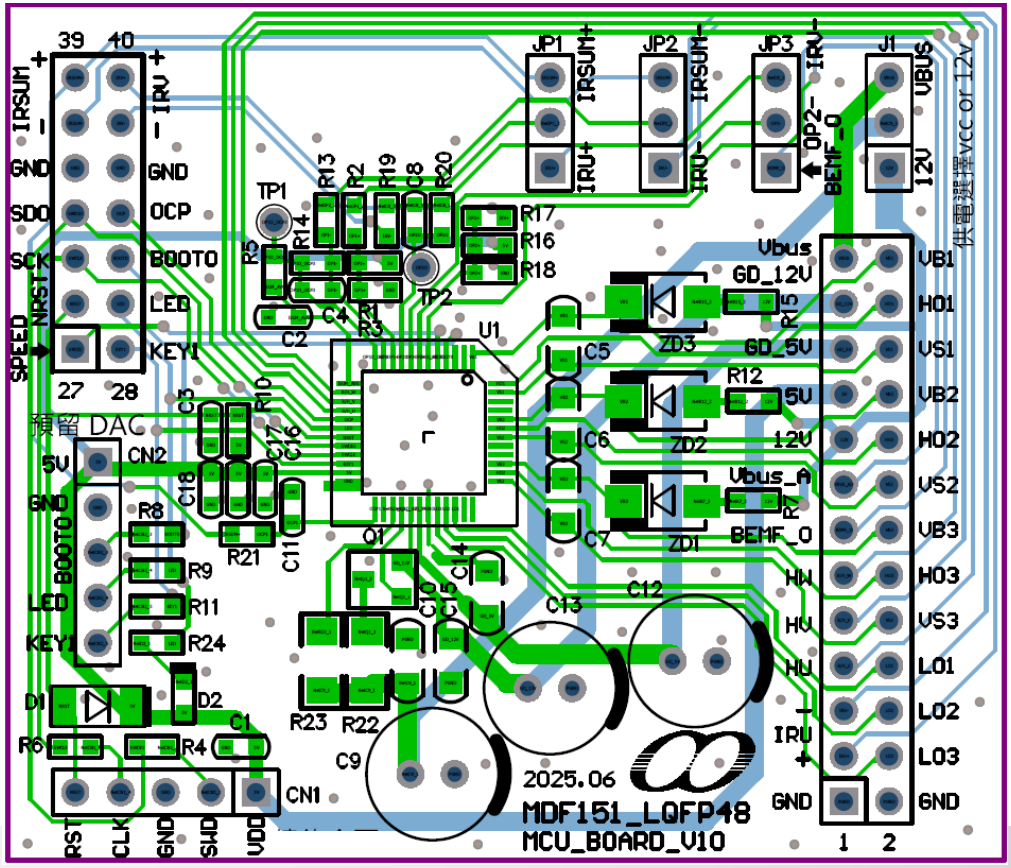
IRV- → FOC 2R (Resistors)

BEMF_O → Sensorless Square Wave

J1： Power input select DC-DC or VCC

TH283A_MDF151 MCU board (LQFP48)

Test use



programming interface

JP1： OP1+ input option

IRSUM+ → FOC 1R (Resistor)

IRU+ → FOC 2R (Resistors)

JP2： OP1- input option

IRSUM- → FOC 1R (Resistor)

IRU- → FOC 2R (Resistors)

JP3： OP2- input option

IRV- → FOC 2R (Resistors)

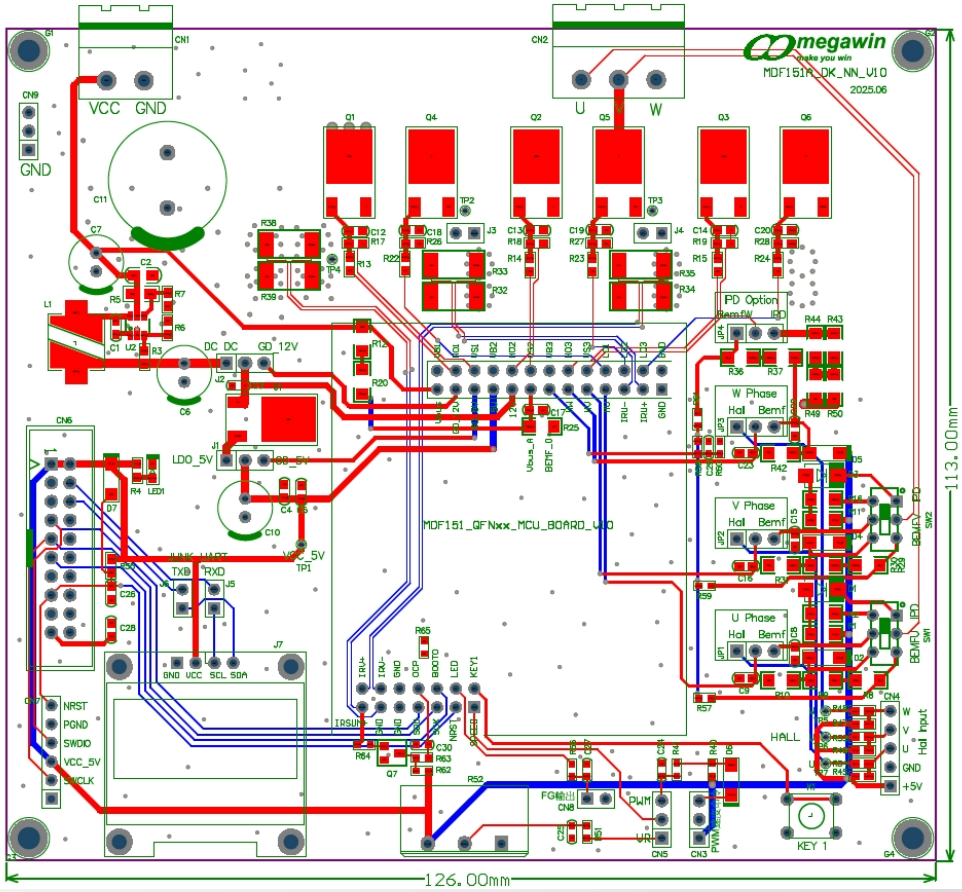
BEMF_O → Sensorless Square Wave

J1： Power input select DC-DC or VCC

TH284A_MDF151 Main board

VBus in 15V~60V

Motor UVW output



J1： 5V Power Supply Option

LDO 5V or GATE DRIVER LDO_5V

J2： 12V Power Supply Option

DC-DC or GATE DRIVER LDO_12V

JP1 / JP2 / JP1/2/3： BEMF or HALL input

Selection the HALL sensor is used or not

JP4： BEMF W or IPD signal Option

Selection the BEMF W

SW1 / SW2 Select BEMF

CN5： Select VR

THANK YOU!