

# Test Procedure for the STK672-440BNGEVB Evaluation Board

The following steps detail the basic test procedure for all these boards:

#### Used STK672-440BN/-442BN-E



Figure 1: Test Setup

### **Evaluation Board Setup**

[Supply Voltage] Vcc (10 to 46V) : Power Supply for stepper motor VDD (5V) : Power Supply for internal logic IC

[Operation Guide]

- 1. Motor Connection:
  - Connect the motor to OUT(A,AB,B,BB) and COM1,2.
- 2. Initial Condition Setting: Set to signal condition No.①,②,③,④,⑤,RESETB and Clock IN.
  \*As for the evaluation board, the initial state is Hi all terminals.
- 3. Power Supply: At first, supply DC voltage to VDD (5.0V).

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Next, supply DC voltage to Vcc.

4. Set to ENABLE condition.

When 'ENABLE' terminal becomes Hi, a motor operates.

[Setting the current limit using the Vref pin]

If the motor current is temporarily reduced, the circuit given below is recommended. The variable voltage range of Vref input is 0.2 to 1.8V.



[Setting the motor current]

The motor current,  $\rm I_{OH}$ , is set using the Pin 19 voltage, Vref, of the hybrid IC. Equations related to  $\rm I_{OH}$  and Vref are given below.

 $\begin{array}{l} \mbox{Vref} \ \approx (RO2 \div (RO2 + RO1)) \times \mbox{V}_{DD}(5 \mbox{V}) \\ \mbox{I}_{OH} \ \approx (\mbox{Vref} \ \div \ 4.9) \ \div \ Rs \end{array}$ 

The value of 4.9 in Equation (2) above represents the Vref voltage as divided by a circuit inside the control IC. Rs:  $0.122\Omega$  (Current detection resistor inside the hybrid IC)

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# STK672-440BNGEVB board Specifications

(Substrate recommended for operation of STK672-xxx)

Size :  $95mm \times 70mm \times 1.6mm$  1-layer board Material: Phenol

Silk side



Copper side (35µ)

