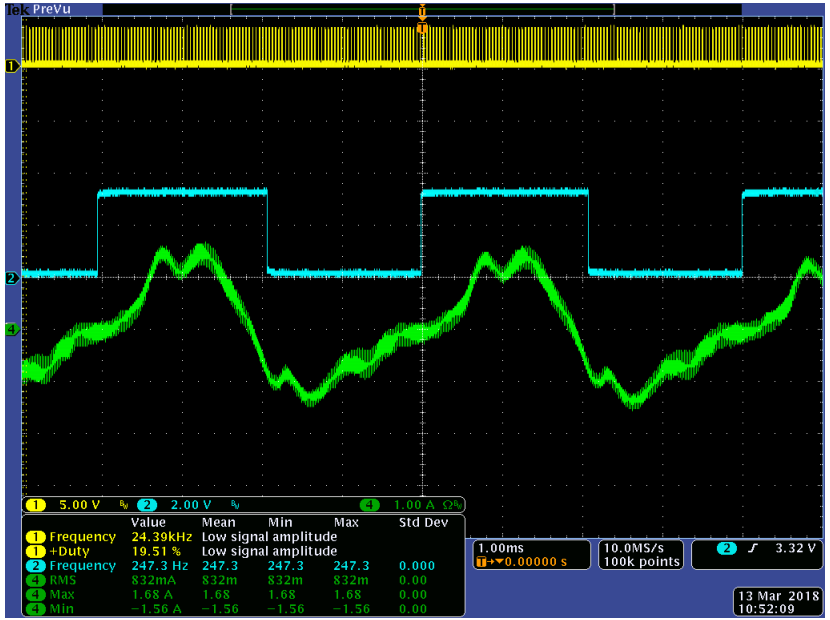
DRV8308 Spin Test

Brian Wang
Mar13, 2018

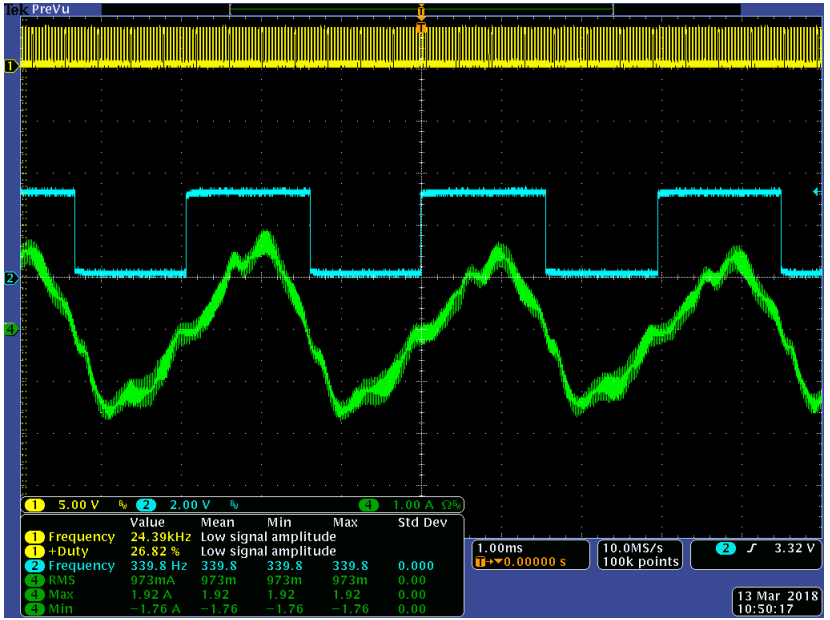
Conditions:

DUT: DRV8308EVM
Input voltage: 12V
PWM Duty Cycle Mode
Probe Setting: Ch1: Clock input, Ch2: FG, Ch3: U Phase Current
Rsense is changed from 0.05 Ohm to 0.025Ohm

Spin with PWM Duty Cycle with 180 Commutation

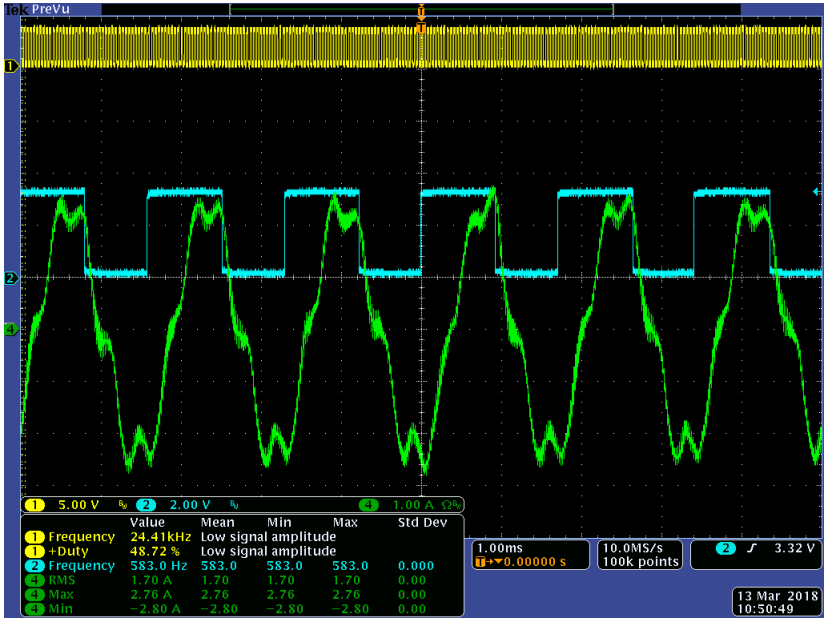


Duty Cycle: 19.51%

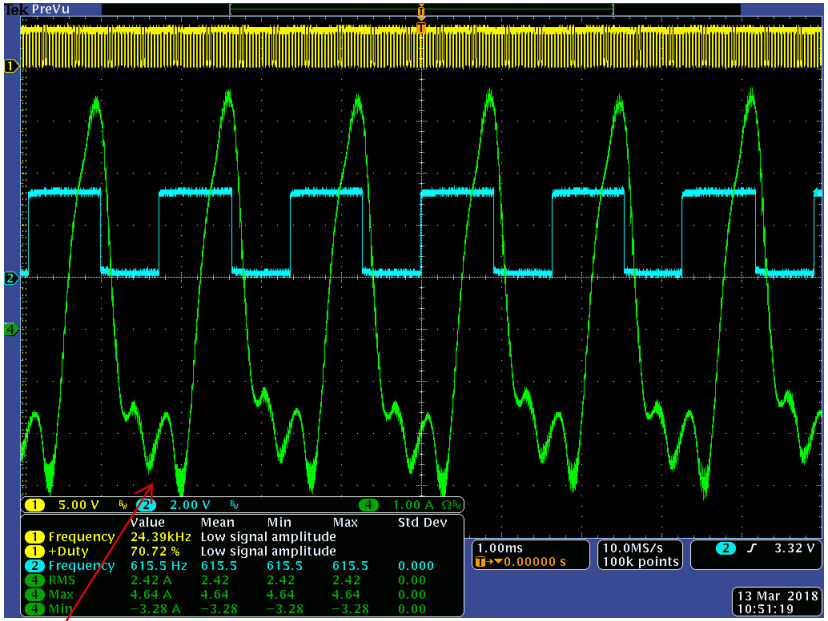


Duty Cycle: 26.82%

Spin with PWM Duty Cycle with 180 Commutation



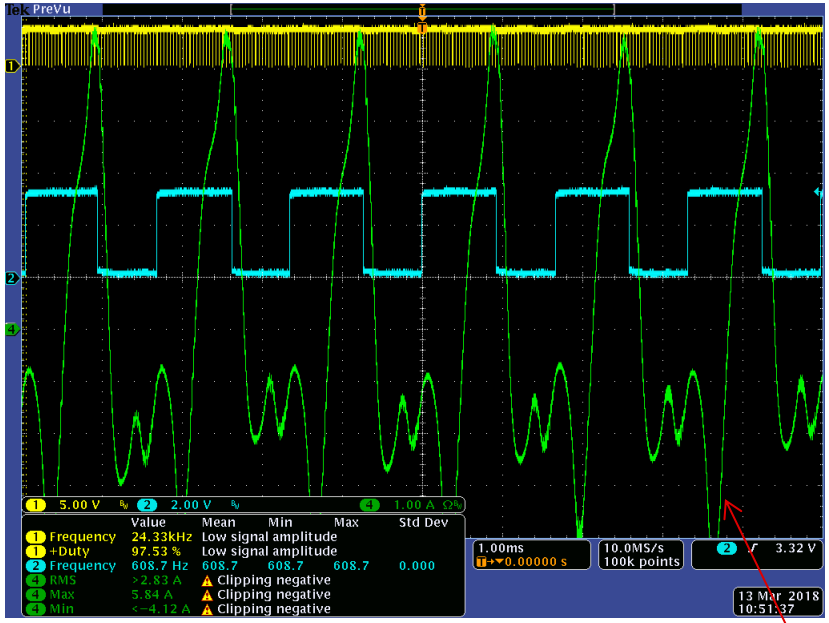
Duty Cycle: 48.72%



Duty Cycle: 70.72%

Current is unbalance and the speed is not significant increased

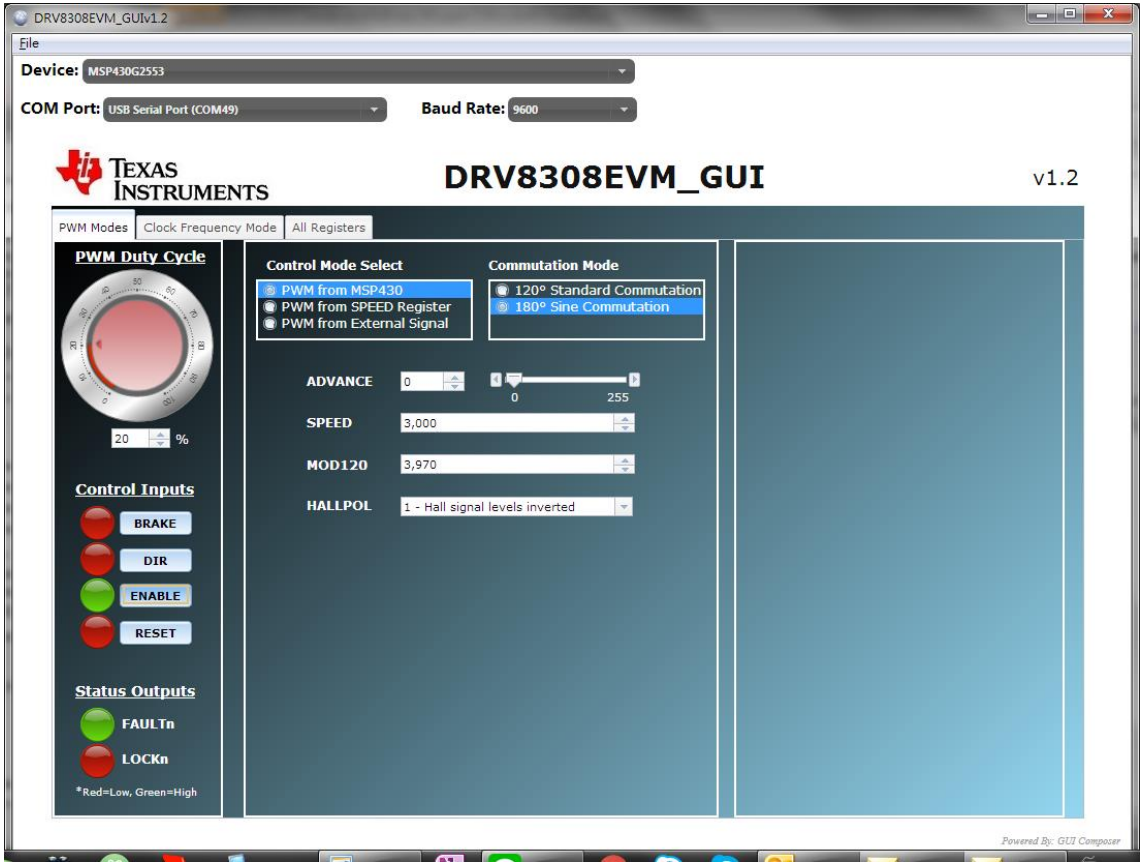
Spin with PWM Duty Cycle with 180 Commutation



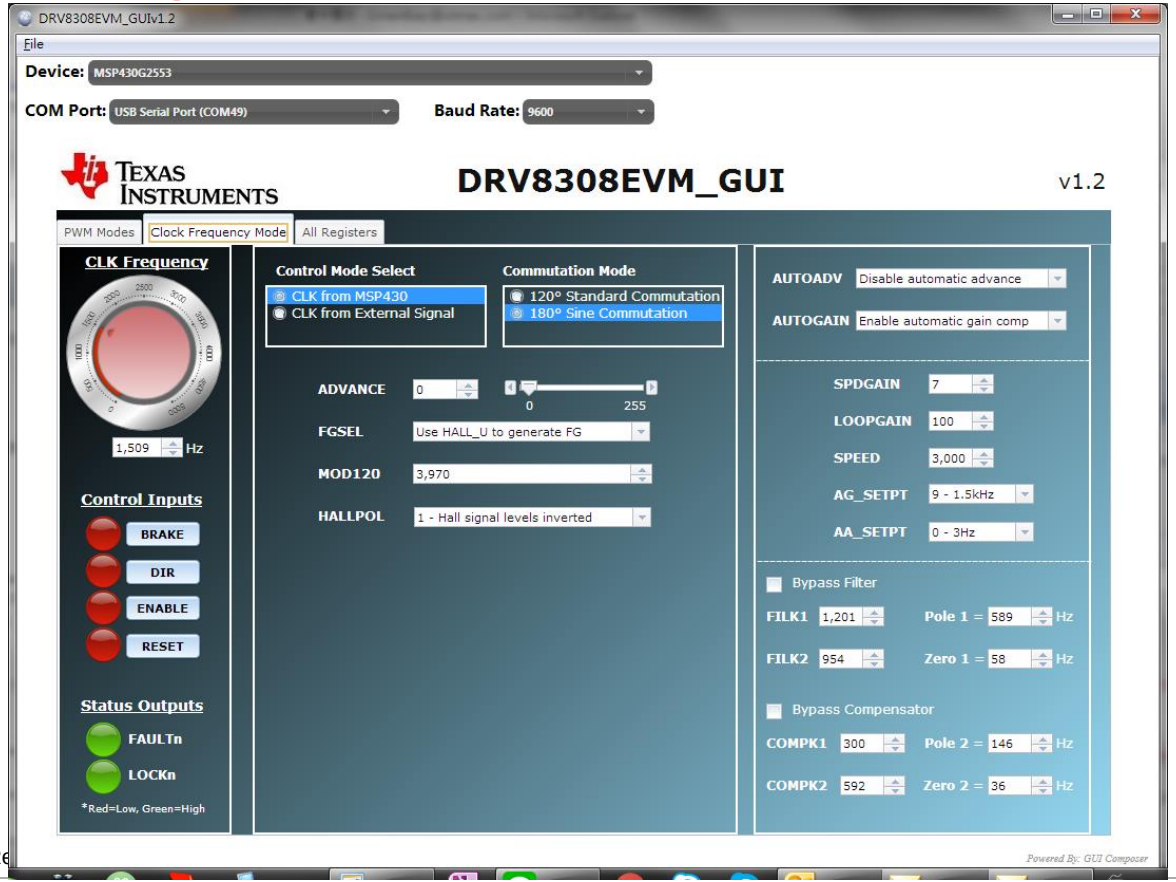
Duty Cycle: 97.53%

Current is unbalance and the speed is not significant increased

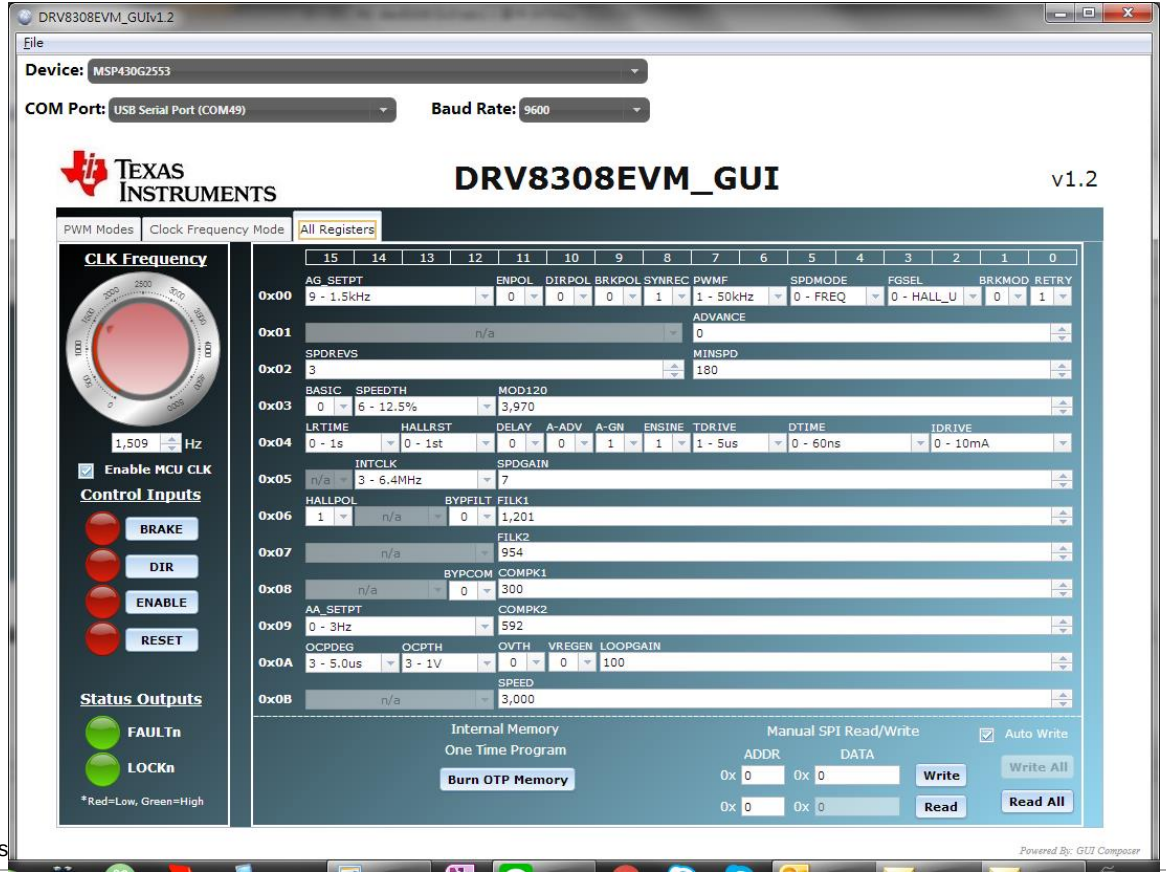
GUI Settings



GUI Settings (1)



GUI Settings (2)



Summary

When we tried to spin the fan with 180 SINE Commutation and PWM duty cycle On DRV8308EVM. We found the U phase current is unbalancing and speed is not significant increased(The speed is limited 610Hz around) when the PWM duty Cycle > 60%. The input PWM duty cycle is not linearity to the fan speed, what happened? How to turning the parameters correctly and improve Current balancing?