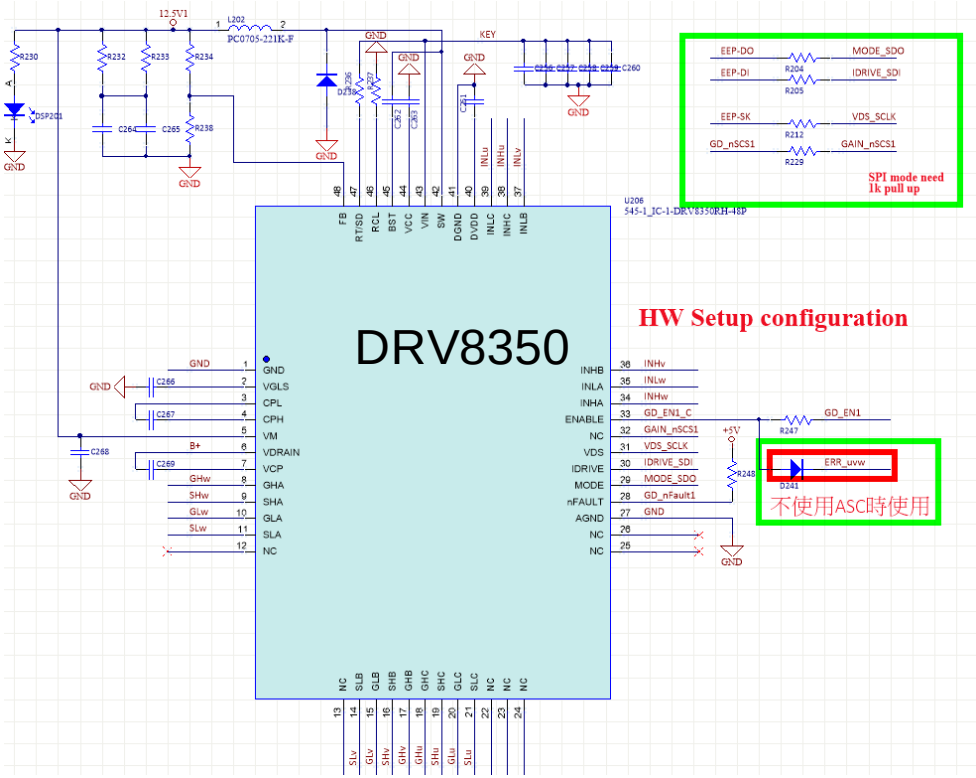
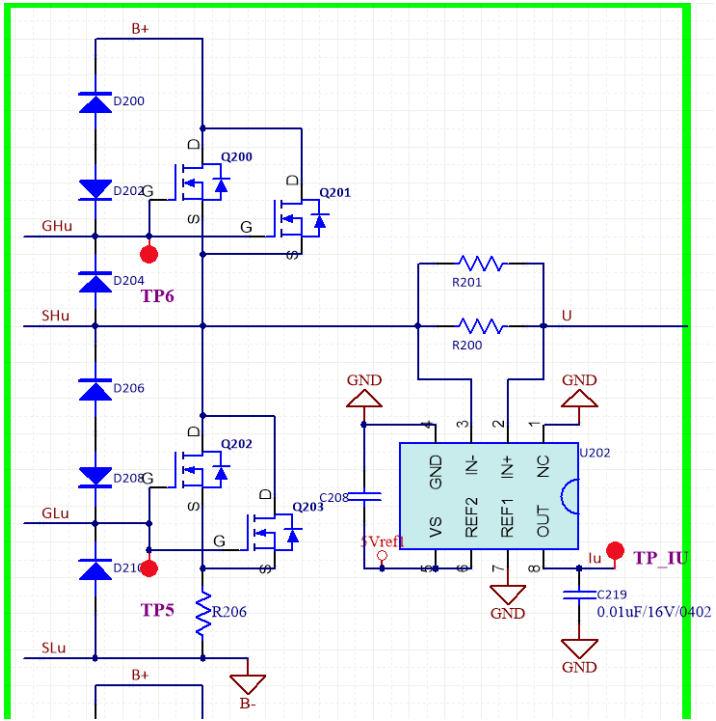
DRV8350 Failure Problem During testing

Description

During board is testing, the device would be damaged. After measuring the static impedance, it looks the ref. voltage is shorting to GND. There are some waveform abnormally, could you check if there is any possible problem? Please offer your comments for schematic and how to get rid of this issue.

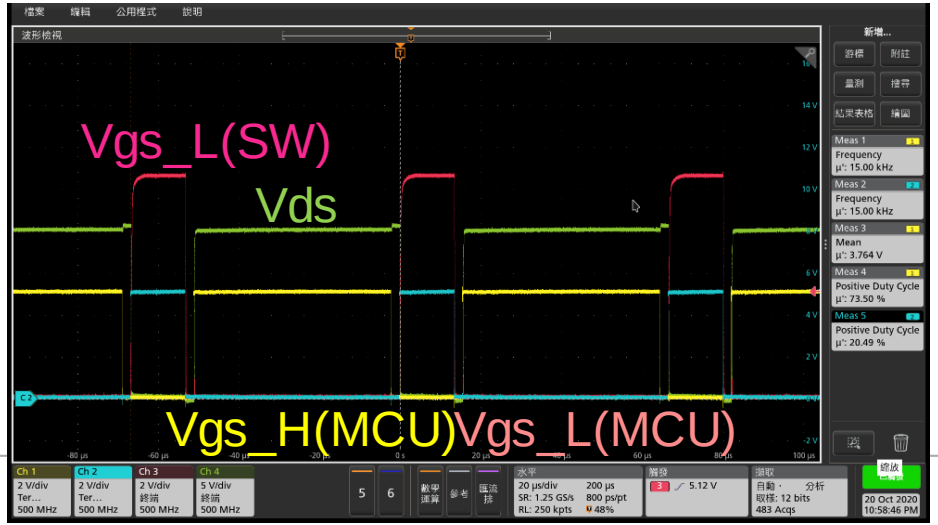
Schematic for Gate driver

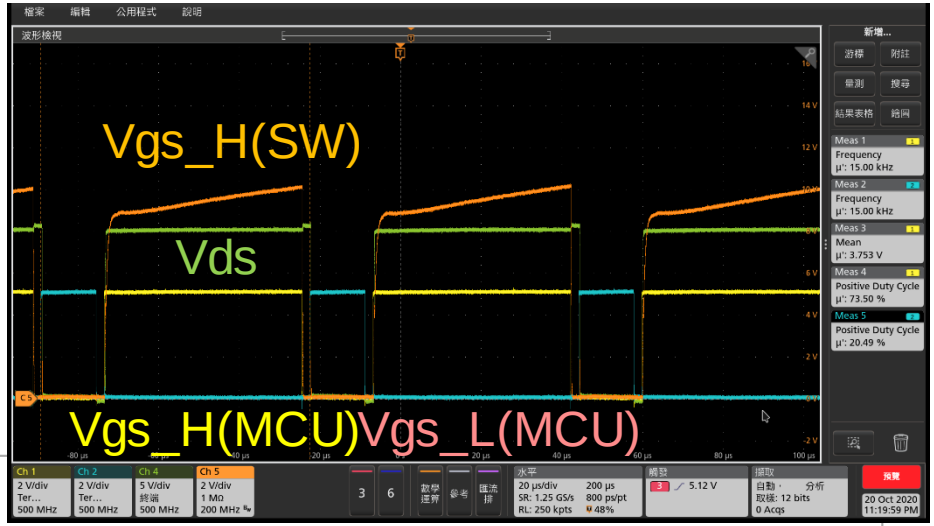




Switching Waveform (Good)

- Vgs_H(MCU), Vgs_L(MCU) are PWM input from MCU
- Vgs_H(SW), Vgs_L(SW) are Gate Driver PWM Output
- Normal Waveform



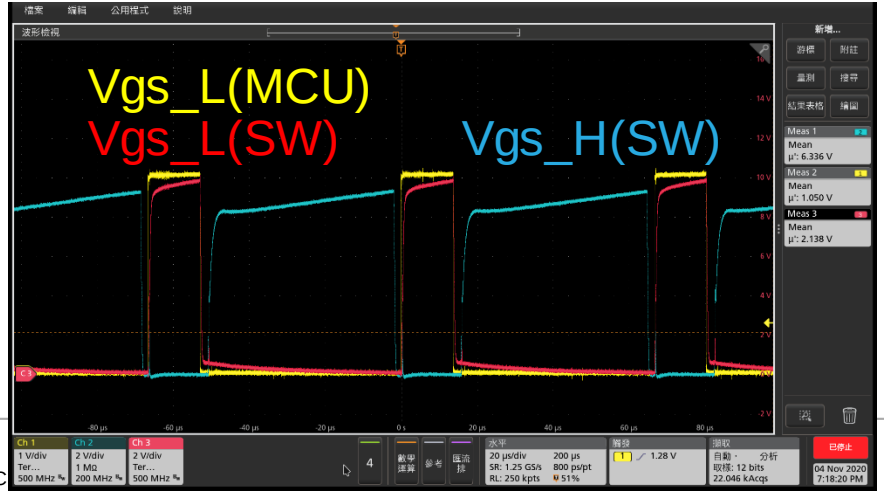


Switching waveform(NG)

- Vgs_H(MCU), Vgs_L(MCU) are PWM input from MCU
- Vgs_H(SW), Vgs_L(SW) are gate driver PWM output
- Here waveforms are abnormal waveform.

- It looks the Vgs_H(SW) of W phase is much lower than U and V phases.
- and also Vgs_L(SW) waveform is distortion .

- U and V Phase



- W Phase