



## Populating high power LEDs on OPT8241\_CDK\_EVM

The LED driver circuit on OPT8241 CDK is not fully tested. We have made sure it should work by design, but you would have to do a careful step by step bring up of the board. Here are the details in bullet points:

1. **Components to be populated:** All components in pages 7 and 8 of "OPT8241-CDK-EVM IB 10-50\_REV2P0V1.pdf".
  1. Ensure you **DON'T** solder R7. That stays DNP.
  2. Solder 0 ohm resistor for R17. **NOT** the 10k resistor as per the BOM.
2. **Components to be removed:** L5, U14, U18
3. **Bring-up procedure:** The DCDC converter design is a very high peak power design which is meant to work at much lower average powers. We would recommend that you start with a low current setting for the first bring up.
  1. You would have to change the value of R10(make it 0.25 ohm) to bring the LED current limit down to 200mA.
  2. Power the board up and measure the current through LEDs. You could use the sense resistor to measure this current. Look out for overheating components.
  3. If current seems fine, ensure the converter is enabling and disabling as per Illum\_EN. This is important for the circuit to function normally.
  4. Once the voltage waveforms across C20 seem to match Illum\_EN, you can go ahead and populate R10 to as per the BOM.

The firmware restrictions which prevent OPT8241\_CDK\_EVM from overheating in normal conditions may not prevent the CDK from getting damaged due to overheating once the LEDs are populated. Special care has to be taken to not overheat the CDK.