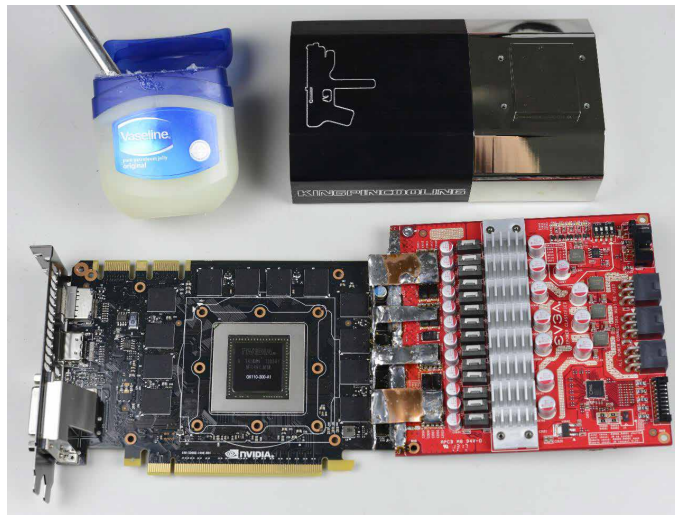


Minimum requirements

Minimum 600W (42A on +12V rail) power supply with three 6-pin PCI-Express supplementary power connector cable for each EPOWER card used in system.

Recommended toolkit for installation and usage (not included, must be acquired separately)

- AWG12 or AWG10 copper wire with insulation or copper plates
- 60 or 80W soldering iron, 150W recommended for copper plates
- Digital multimeter for resistance and voltage checks
- EVGA EVBOT with 680 CLASSIFIED or EPOWER CLASSIFIED firmware
- 80 or 120mm +12V DC FAN with 3-pin header for VRM cooling
- Flux and solder for wire joints
- Insulation materials to prevent moisture on VRM



Testimonials

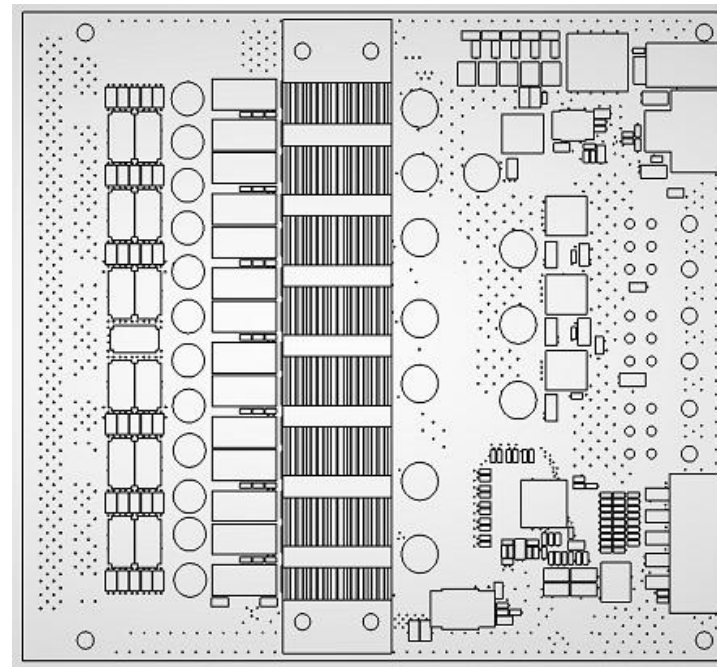
<http://kingpincooling.com/forum/showthread.php?t=1412>

<http://kingpincooling.com/forum/showthread.php?t=2290>

<http://www.evga.com/forums/tm.aspx?m=1275671&mpage=1>

<http://kingpincooling.com/forum/showthread.php?t=2300>

EVGA The Untouchables



EPOWER CLASSIFIED

14-phase high-power VRM

Connecting to the device

1. Disconnect stock VRM power inductor on desired channel
2. Open copper plane for ground and power on target device
3. Solder thick (AWG10-AWG12) wires or copper plate from EPOWER GND to ground and VCORE points to power.
4. Default startup voltage on VCORE can be set by VID, and preset at 0.9V. Maximum current for VCORE – 400A, Peak 500A.
5. Good to follow rule – one pair of wires (VCORE+GND) per each 10-15A. For simple VGA like with 2-3 phase VRM best to use 4-8 wire pairs. For high-end VGA should be no less than 10-15 wire pairs. Top GPUs like GF100, GF110 must use as many pairs as possible physically.
6. Multiple wires assist better power delivery and less voltage deviation under idle and load states. If delta (difference of voltage between EPOWER card and GPU capacitor voltage near package) is more than 100mV – more wires needed to compensate.
7. EPOWER card require forced airflow under heavy load conditions. User can use onboard 3-pin FAN connector, which provides +12V.
8. After connection EPOWER to GPU always check resistance between power and GND to ensure no shorts. Normal resistance range for GPU is 0.5-10 ohm, for VGA's memory – 5-200 ohm.
9. For videocards with advanced PWMs (>3 phase) check VR_PGOOD (power good) signal, it should be not deasserted by stock PWM.
10. Connect PCI-Express power 6-pin/8-pin cable to EPOWER card AND videocard BOTH. This will provide power to VGA, as most cards still need have +12V present.
11. If after power on voltage is OK, but system do not detect videocard – disconnect VR_PGOOD trace near onboard PWM on videocard. This will prevent onboard VRM to reset GPU (because onboard power is not used – it's fault state for it)
12. For voltage adjustment on EPOWER use EVGA EVBOT with 680 CLASSIFIED VGA firmware. Useful to set OCP limit to Extreme when overclocking.
13. Keep moisture off VRM card, ensure there is no direct impact from frozen areas on target device.

E009-00-000065

This device is intended only for advanced user use with basic electronics experience. EPOWER is covered only by DOA warranty

EVGA “The Untouchables” EPOWER card is separate VRM board to provide additional power for target devices, such as videocard, motherboard or other devices which may need high-current low-voltage power source. EPOWER card designed to operate with single voltage outputs VCORE output– Voltage adjustment range 700mV to 2000mV. Current source capacity rated at 400 A. Maximum capacity - 500 A at 1.9V output voltage.

Included Equipment

The following equipment is included in the EVGA “The Untouchables” EPOWER card bundle.

- EPOWER CARD REV:0.4
- Installation Quick Guide

