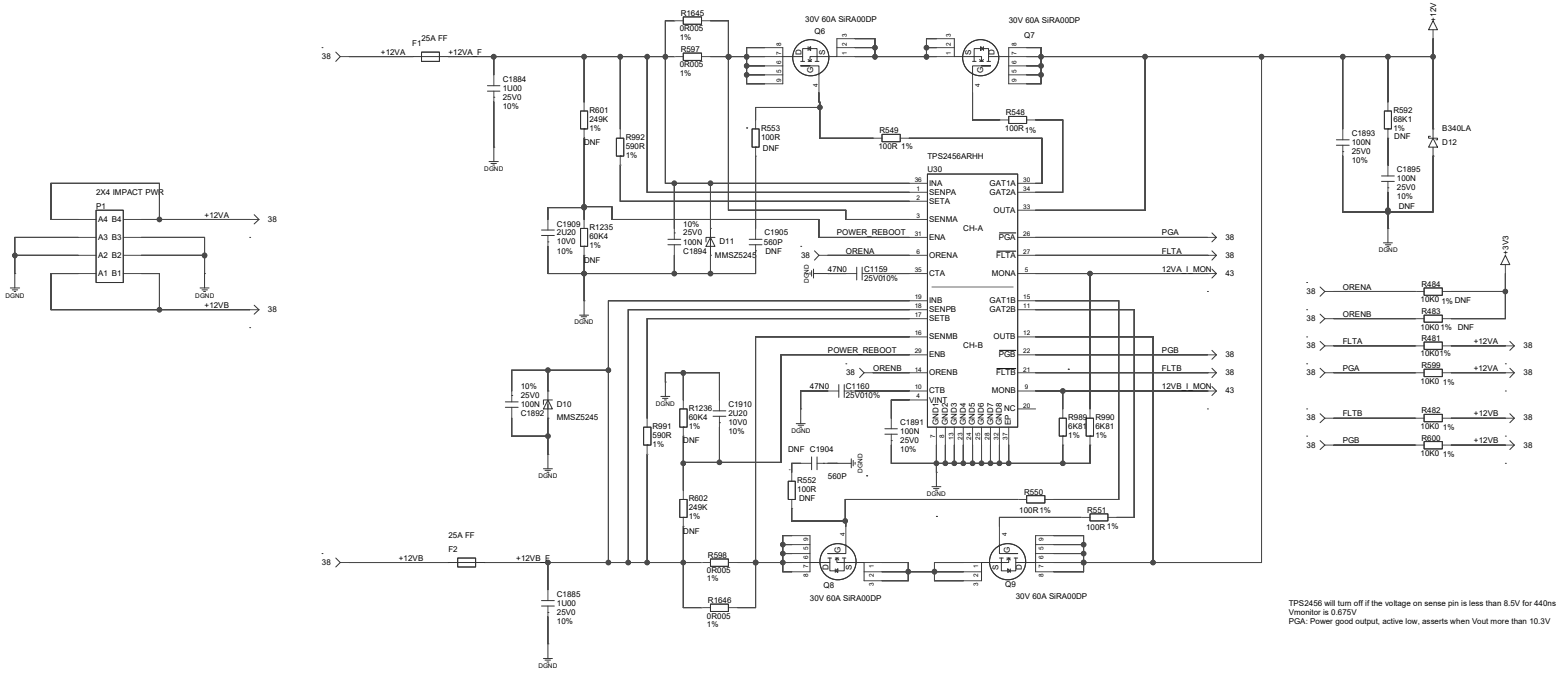
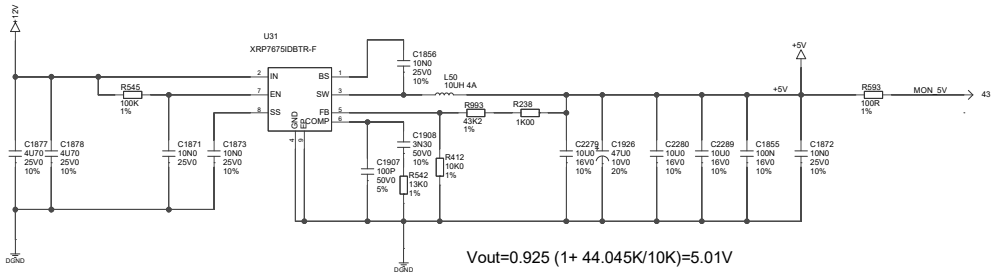
+12V ORing and Hot-Swarp



TPS2456 will turn off if the voltage on sense pin is less than 8.5V for 440ns
Vmonitor is 0.675V
PGA: Power good output, active low, asserts when Vout more than 10.3V



Vout=0.925 (1+ 44.045K/10K)=5.01V

ADVA OPTICAL NETWORKING

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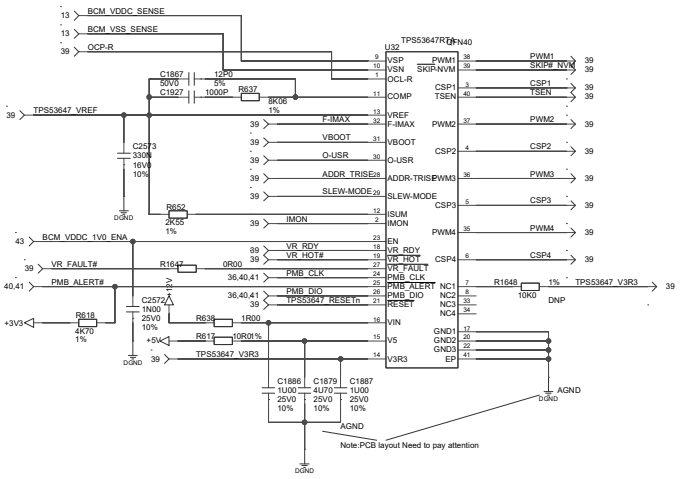
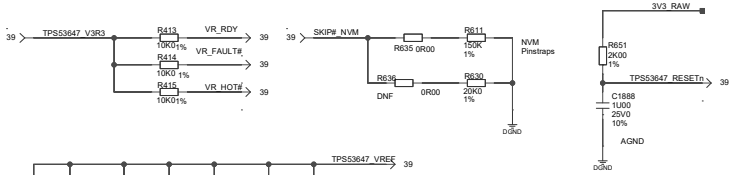
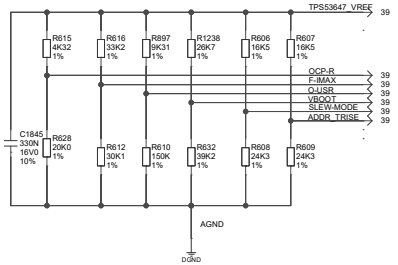
12V-> BCM_CORE_1.0V@120A DC-DC Power Converter

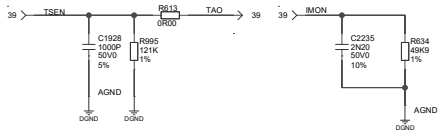
TPS53647, 1.0V@120A_BCM_CORE

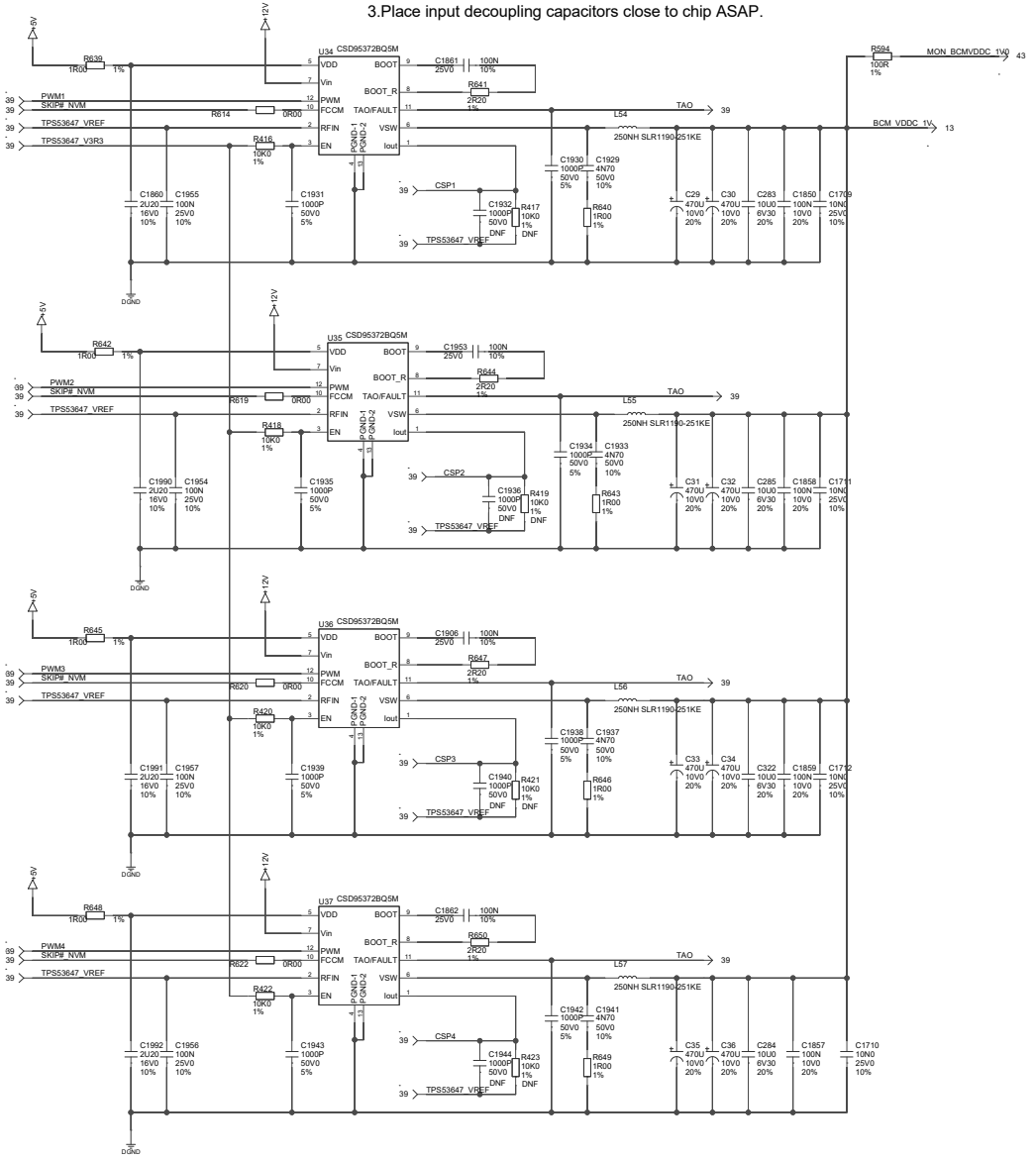
Notes: 1.RC snubber resistor use a 0.5W power (5072709001) instead.
2.Place RC snubber close to chip ASAP.
3.Place input decoupling capacitors close to chip ASAP.

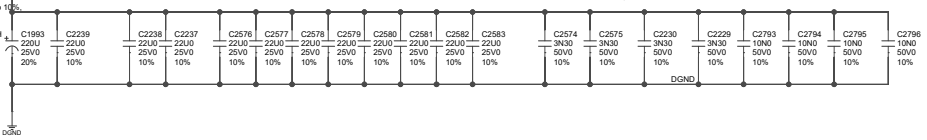












4-phase, 1 V, 120 A output
Number of phases: 4
Imax:120A
Boot voltage, VBOOT: 1.0 V
PMBus Address: 1110001 (bin)

TEMP=(Vtsen-0.6)/0.008, and maximum can sense is 127.9 degree

input UVLO point can be setting

VREF=1.7V, so, PMBus addr is decided by the voltage on ADDR_TRISE point=1.7V*24.3/(16.5+24.3)=1.0125v, base on datasheet page 8, theaddress is 0x71 (1110001).

We can adjust the final output voltage through VREF_TRIM command, the adjustment is between -20% to 10%, the step size of approximately 5mV or 0.4%

L3=Vout*(Vin-Vout)/(Vin(max)*Fsw*Iout(max)*Kind)=1.0V*(14V-1.0V)/(14V*500Hz*1000*30A*0.3)=270NH

f=500kHz when Rf=30.1kohm between the F-IMAX pin and GND

GND and AGND will connect to one point on PCB

ADVA OPTICAL NETWORKING

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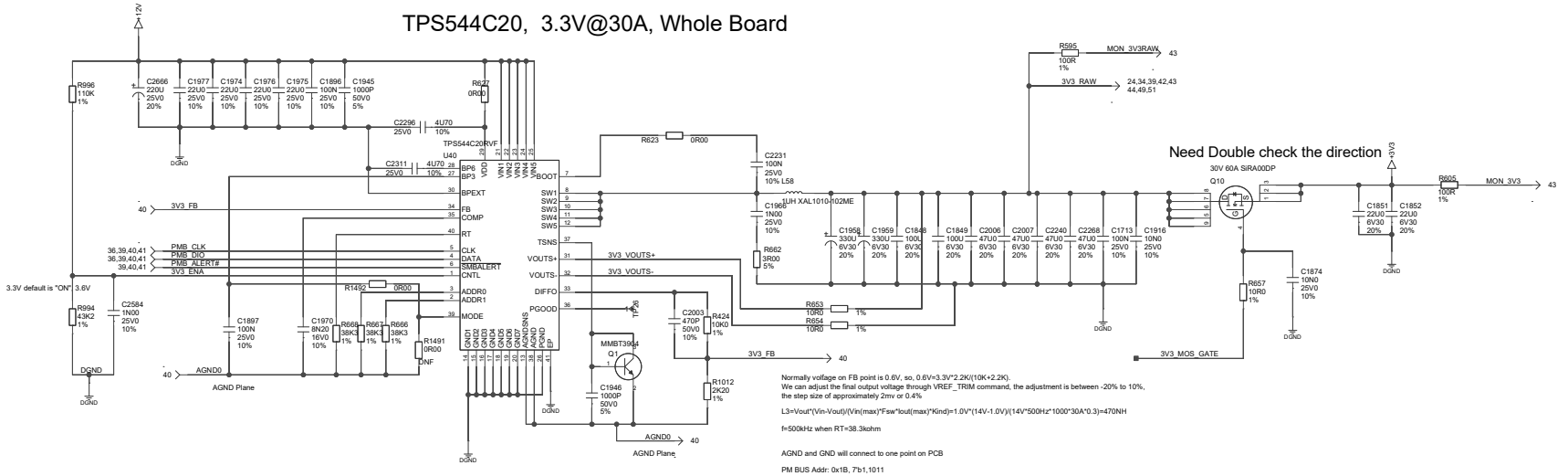
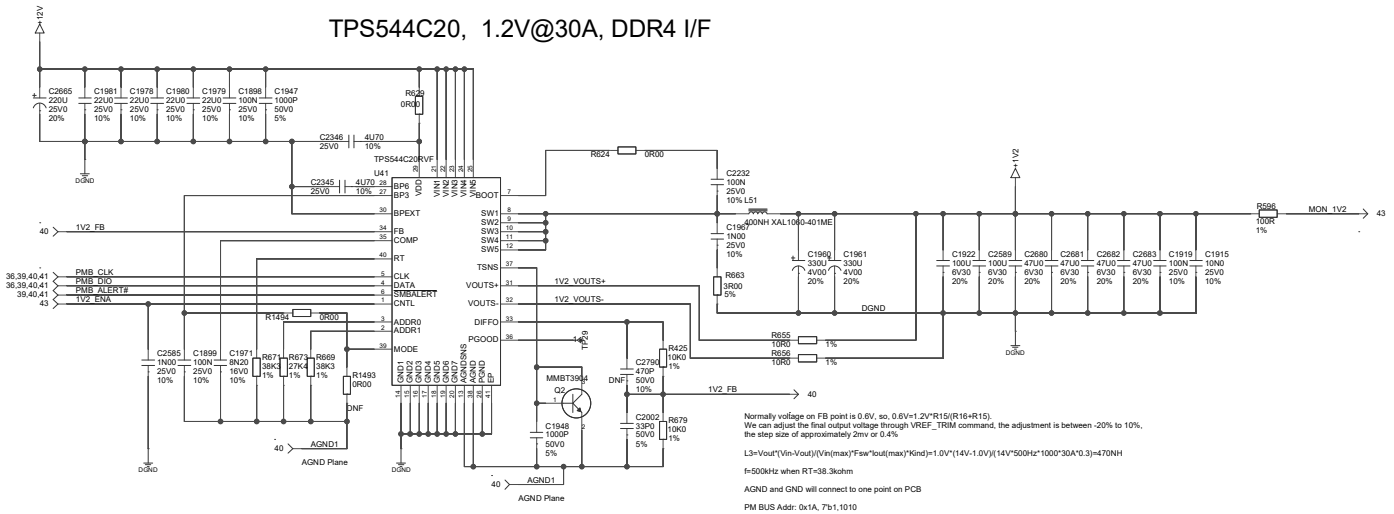
12V->3.3V, 1.2V DC-DC Power Converter

TPS544C20, 3.3V@30A, Whole Board



TPS544C20, 1.2V@30A, DDR4 I/F



ADVA OPTICAL NETWORKING

Size A2	Schematic heracles_mb	REV 2.3
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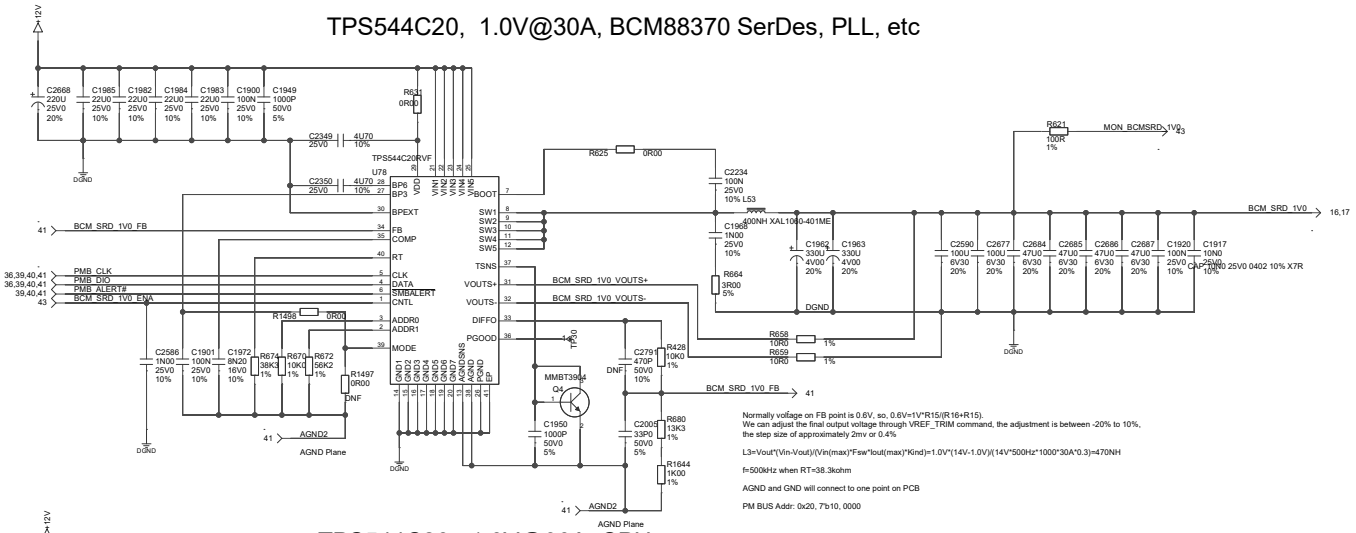
Drawn by Thomas Gan		

12V->BCM_SRD_1.0V, CPU_1.0V DC-DC Power Converter

TPS544C20, 1.0V@30A, BCM88370 SerDes, PLL, etc



Normally voltage on FB point is 0.6V, so, 0.6V=1V*R15/(R16+R15).
We can adjust the final output voltage through VREF_TRIM command, the adjustment is between -20% to 10%, the step size of approximately 2mv or 0.4%

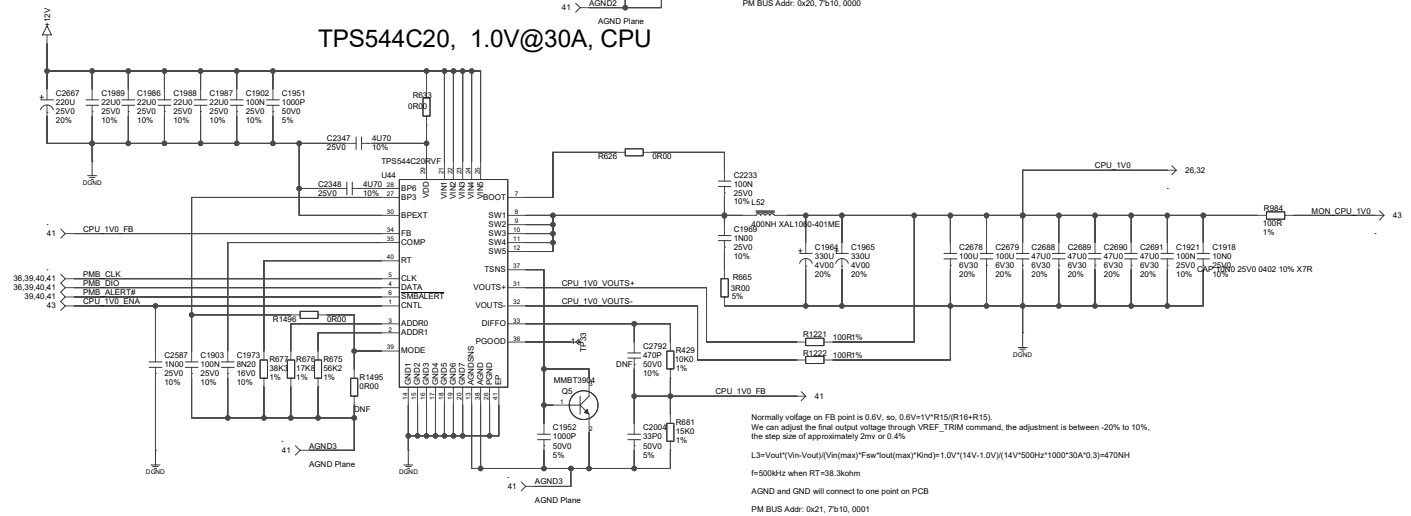
L3=Vout*(Vin-Vout)/(Vin(max)*Fsw*Iout(max)*Kind)=1.0V*(14V-1.0V)/(14V*500Hz*1000*30A*0.3)=470NH

f=500kHz when RT=38.3kohm

AGND and GND will connect to one point on PCB

PM BUS Addr: 0x20, 7'b10, 0000

TPS544C20, 1.0V@30A, CPU



Normally voltage on FB point is 0.6V, so, 0.6V=1V*R15/(R16+R15).
We can adjust the final output voltage through VREF_TRIM command, the adjustment is between -20% to 10%, the step size of approximately 2mv or 0.4%

L3=Vout*(Vin-Vout)/(Vin(max)*Fsw*Iout(max)*Kind)=1.0V*(14V-1.0V)/(14V*500Hz*1000*30A*0.3)=470NH

f=500kHz when RT=38.3kohm

AGND and GND will connect to one point on PCB

PM BUS Addr: 0x21, 7'b10, 0001

ADVA OPTICAL NETWORKING

Date 26/09/2019:13:58	Size A2	Schematic heracles_mb
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