REASON FOR MODIFICATION:

Redesign see action list below and attached acrobat mark ups from Peter Moore.

DESCRIPTION OF MODIFICATION:

<table>
<thead>
<tr>
<th>Item</th>
<th>Originator</th>
<th>Action Description</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>dms</td>
<td>specify rohs material and finish</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>dgs/pcm</td>
<td>Add 49.9K pullup to SHDN (pin 11) of U44. Tie to VIN (pin 14) of U44</td>
<td>did not change - remember Dave reporting that it didn't appear to have an affect (dms)</td>
</tr>
<tr>
<td>3</td>
<td>dgs/pcm</td>
<td>Remove dependance on VP80 for 30V supply operation</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>dgs/pcm</td>
<td>Install 0.68uF capacitor in position C27 (compensation pin of U25) for the VFAN supply. <strong>We installed a 0.47uF on the prototype because of stock availability (in house).</strong></td>
<td>Done/dms</td>
</tr>
<tr>
<td>5</td>
<td>dgs</td>
<td>Change the synchronization pulses for the power supplies to square waves for improved performance.</td>
<td>Done/dms</td>
</tr>
<tr>
<td>6</td>
<td>dgs/pcm</td>
<td>Change CR15 and CR16 from 80V (B180) to 100V version (B1100). Digikey # B1100-FDICT-ND.</td>
<td>Done/dms ended up being DFLS1150</td>
</tr>
<tr>
<td>7</td>
<td>dgs/pcm</td>
<td>VN80A supply - connect C14 and C135 to negative voltage rail instead of ground.</td>
<td>Done/dms</td>
</tr>
<tr>
<td>8</td>
<td>dgs/pcm</td>
<td>VN180A supply - connect C16 and C137 to negative voltage rail instead of ground.</td>
<td>Done/dms</td>
</tr>
<tr>
<td>9</td>
<td>pcm</td>
<td>30V supply - analyze transformer magnetics for operation range inductance.</td>
<td>Done/dms</td>
</tr>
<tr>
<td>10</td>
<td>pcm</td>
<td>30V supply - look at providing transistor buffers instead of cascode design.</td>
<td></td>
</tr>
</tbody>
</table>
11 dgs/pcm  Change the value of the VPWR_EN pullup resistors (R120, R121, R122, and R124) from 66.5K to 4.7K.

12 dgs/pcm  Silicon serial number added to board, DS28CM00

13 dgs/pcm  reduce hole size in the bezel around the on/off button switch

14 dgs/pcm  Fan running even after shut down.

15 all  decide on the power input connector

Does the VP/VN 80A need to be variable originated from the AFE design, VP/VN80A only go to regulators and reference generators, the input to one of these voltage references can not go below 8V

16 all

17 pcm 07/06/09

1. Change U3, U5, U7, U9, U11, U15 devices to be DG447 (currently they are DG448 - This change makes the power enable signals for VFAN, VP/N80, VP/N180, and VP/N300 positive true).

2. Take the common connection node for resistors R120, R122, R124 to GND. Change resistor values to be 33k Ohms. Note that R121 stays connected to VPWR_EN_PU.

18 pcm 07/06/09

3. Rename the following signals /V80_PWR_ENABLE to be V80_PWR_ENABLE (i.e. positive true).
   /V180_PWR_ENABLE to be V180_PWR_ENABLE
   /VFAN_PWR_ENABLE to be VFAN_PWR_ENABLE

19 pcm 07/06/09

1. Change resistor R89 value from 4K99 to 820 Ohms. - This allows the I2C device side of the bus to change the logic level from low to high when using the bi-directional voltage translator devices on the bus.

2. Remove U18 (MCP9803) pin 6 connection from +3.3v and tie instead to GND. - This normalizes the I2C device addressing scheme for Temp sensor 2.

20 pcm 07/07/09

21 pcm 07/07/09

3. Rename U17 to be Temp #2, rename U18 to be Temp #1. - Corrects the names the temperature sensors to correspond to their addresses.

22 pcm 07/07/09

conflict with #18(dms)
changed value of R121 to 12.1K, removed R120, R122 & R124
Add 12.1K between LCB_PWR_KILL and VCC
done/dms
duplicate #24

Needs to go to Joe

solution detailed in items 17, 18, 19
done Hirose RP34 4 pin right angle ??

Done/dms undone all went back to DG448

conflict with #11(dms)
see #11 comments for what was done
Done/dms changed further to be VANA_ENBL VCB_ENBL VFAN_ENBL

Done/dms value to 825 like other boards to standardize parts.

Done/dms
4. Remove U19 pin 3 connection to GND and tie to +3.3v - Normalizes the address for the eeprom device. Done/dms

5. Add a DS28CM00 SSN device to the I2C bus signals SDA and SCL. done/dms
duplicate #12

6. LS2 connector, graphic depicting orientation of socket /pin in silkscreen
   ground, shld, chassis ground strapping capability, as well as clear identification with labels done - as shown on the grounding diag. ???

7. email torrent connectors DB part error
   the two voltages are the heater positive supply ( fused +24v raw input ) and the +10v analog supply for temperature sensor circuitry. I suggest that when we respin the power supply we put in a jumper that connects / disconnects these supplies from the connector.

8. change outer layers from 2 oz to 1 oz copper done

9. Add back side bias circuit

Changes from email before Rev assembly Sept 9, 2010
VHV Supply.
1). Change R51 from 8.45K to 16.9K sch, pl, pv
2). Is C40 pad size sufficient to accommodate a 3.3nf if necessary ? should be fine dms
3). Change R53, R52 from 12.1K to 6.81K sch, PL,pv
4). Change R7, R8 from 3.32K to 6.81K (hope you meant R124, R33) sch, PL, pv
5). Change R127 from 12.1K to 24.9K - (mainly for component type reduction) sch, pl,pv
6). Change R32 from 22.1K to 24.9K - (mainly for component type reduction) sch, pl, pv
VBB Supply.
7). Change R89 from 22.1K to 24.9K - (component type reduction) sch, PL, pv
8). Change R80 from 12.1K to 24.9K - (component type reduction) sch, PL, pv
9). Change R139, R140 from 12.1K to 6.81K sch, PL, pv
10). Change R69, R154 from 3.32K to 6.81K sch, PL,pv
11). Change R143, R145 from 634K to 619K sch, PL, pv
12). Change R76 from 24.9K to 41.2K sch,PL, pv
13). Change R142 from 12.1K to 6.81K sch, PL, pv
14). Change R141 from 8.45K to 16.9K sch, pl, pv
15). Change transformer type from CooperBussmann VPH2-0216-R to CooperBussmann VP2-1600-R