ANGLES

1. All resistance values are in ohms, 0.1 watt +/- 5%.  
2. All capacitance values are in microfarads.  
3. All crystals & oscillator values are in hertz.

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6 | SIGNAL LOCATIONS
7 | COMPONENT LOCATIONS

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BUBBA
DVT BUILD
11/20/2002
PCB SPECS

THICKNESS: 1.2 MM / 0.047 IN
1/2 OZ CU THICKNESS: 0.7 MILS
1.0 OZ CU THICKNESS: 1.4 MILS

IMPEDANCE: 50 OHMS +/- 10%
DIELECTRIC: FR-4
LAYER COUNT: 12
SIGNAL TRACE WIDTH: 4 MILS
SIGNAL TRACE SPACING: 4 MILS
PREPREG THICKNESS: 2-3 MILS

SEE PCB CAD FILES FOR MORE SPECIFIC INFO.

BOARD STACK-UP AND CONSTRUCTION

1. SIGNAL (1/3 OZ + COPPER PLATING)
2. PREPREG (3MIL)  GROUND (1/2 OZ)
3. LAMINATE (4MIL)  SIGNAL (1/2 OZ)
4. PREPREG (3MIL)  SIGNAL (1/2 OZ)
5. LAMINATE (4MIL)  GROUND (1/2 OZ)
6. PREPREG (2MIL)  CUT POWER PLANE (1 OZ)
7. LAMINATE (3MIL)  CUT POWER PLANE (1 OZ)
8. PREPREG (2MIL)  GROUND (1/2 OZ)
9. LAMINATE (4MIL)  SIGNAL (1/2 OZ)
10. PREPREG (3MIL)  SIGNAL (1/2 OZ)
11. LAMINATE (4MIL)  GROUND (1/2 OZ)
12. PREPREG (3MIL)  SIGNAL (1/3 OZ + COPPER PLATING)
## Differential Signals

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>Min Line Width</th>
<th>Min Neck Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>+5V_MAIN</td>
<td>5V Main Power</td>
<td>20</td>
<td>10</td>
</tr>
<tr>
<td>LT1613</td>
<td>LT1613</td>
<td>1.35</td>
<td>1</td>
</tr>
<tr>
<td>MAX933</td>
<td>MAX933</td>
<td>2.0</td>
<td>1.0</td>
</tr>
<tr>
<td>MAX1879</td>
<td>MAX1879</td>
<td>2.0</td>
<td>1.0</td>
</tr>
<tr>
<td>S8241</td>
<td>S8241</td>
<td>2.0</td>
<td>1.0</td>
</tr>
<tr>
<td>USB</td>
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## Power Signals

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<td>1.0</td>
</tr>
</tbody>
</table>

## Signal Constraints

### Minimum Line Width

- **VOLTAGE=0V/GND**
- **VOLTAGE=6.5VBOOST_OUT**
- **VOLTAGE=14V14V_PBUS**
- **VOLTAGE=0VBBATT_VSS**
- **VOLTAGE=14VPBUS_SR1**
- **VOLTAGE=4.2V+V_BBATT**
- **VOLTAGE=4.2V+V_BBATT_RAW**
- **VOLTAGE=1.4VMAX1879_ADJ**
- **VOLTAGE=0VBBATT_VSS_SW**
- **VOLTAGE=1.2V3_28V_DET**
- **VOLTAGE=4.2VBOOST_ENABLE**
- **VOLTAGE=4.2VBBATT_DISCHRG_ENABLE**
- **VOLTAGE=4.2VBBATT_OUT**
- **VOLTAGE=6.5VBBATT_BOOST**
- **VOLTAGE=1.3VLT1613_FB**
- **VOLTAGE=1.3VLT1613_FB_RC**
- **VOLTAGE=4.2VPROT_C0**
- **VOLTAGE=4.2VPROT_D0**
- **VOLTAGE=14VBBATT_INPUT_DIV_L**
- **VOLTAGE=14VPBUS_BB_SW**
- **VOLTAGE=14VPBUS_SR2**
- **VOLTAGE=14VPBUS_BB_IN**
- **VOLTAGE=24V24V_PBUS**

### Minimum Neck Width

- **10 MIL SPACING**
- **10 MIL SPACING**
- **10 MIL SPACING**
- **10 MIL SPACING**

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**REVISION HISTORY**

- **07/12/02** - RE-PINNED J2 (PG. 2)
- **07/12/02** - MINOR SCHEMATIC CLEAN-UP
- **07/12/02** - MAJOR CONSTRAINT FIXES
- **08/12/02** - DELETE LIGHT SENSOR AND ASSOCIATED COMPONENT
- **08/14/02** - CHANGE J2 TO MOLEX 52559-1292(P/N 518S00433)
- **08/14/02** - ADD BATTERY SYMBOL (POWER CABLE)
- **08/15/02** - ADD USB 3.0 ASSOCIATED COMPONENT
- **08/19/02** - ADD USB 3.0 ASSOCIATED COMPONENT
- **10/17/02** - CHANGE BATTERY SYMBOL TO 3P
- **11/22/02** - ADD 15 BETWEEN DIGITAL GND AND CHASSIS GND
- **11/22/02** - USE C2 & C25 TO REPLACE C2
- **11/24/02** - CHANGE C1, R6, R7 TO SMALL SIZE (0603)

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**SIGNAL CONSTRAINTS**

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