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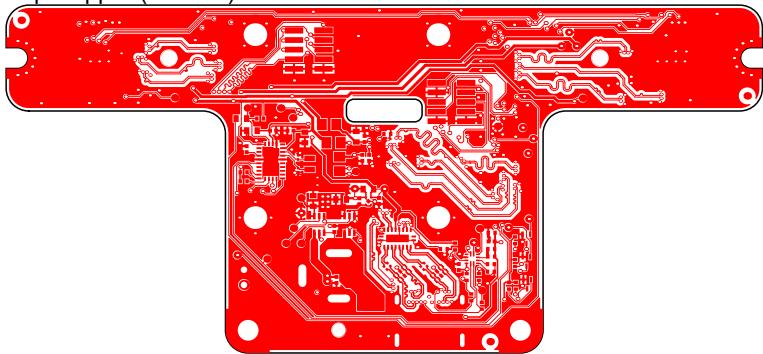
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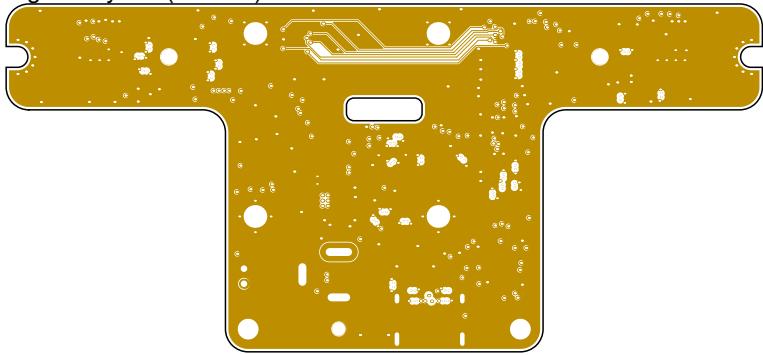
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E

Top Copper (Scale 1)



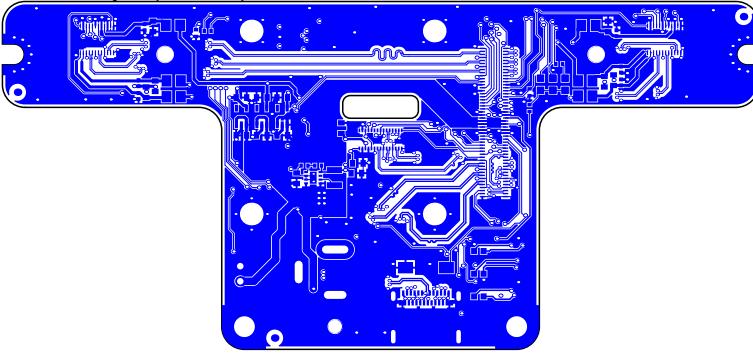
Signal Layer 1 (Scale 1)



Layer 1 (Scale 1)



Bottom Layer (Scale 1)

**FABRICATION NOTES:**

Fabricate per IPC-6011 & IPC-6012 CLASS 2  
Inspect per IPC-A-600 CLASS 2  
Test per IPC-TM-650

- \* PCB has 4 copper layers
- \* Copper thicknesses are finished and include base foil plus Cu plating on plated layers.
- \* PCB thickness: 63mil +/- 3mil
- \* Min. trace width/clearance: 0.1mm/0.1mm
- \* Min. hole drill/ring: 8mil/16mil
- \* Soldermask gang relief is allowed for pads in same footprint, if footprint is NSMD.
- \* Silkscreen, non-conductive epoxy ink, color: white
- \* Solder mask color: black
- \* Remove silkscreen as needed to prevent ink on any exposed copper
- \* Surface finish: ENIG
- \* Hole dimensions are finished size, +/-3mil
- \* Linear board dimension tolerance: +/-10mil
- \* Bow, twist, warp not to exceed 0.75% of greatest diagonal span
- \* PCB shall be UL Recognized printed wiring board (ZPMV2), minimum flammability rating 94V-0
- \* PCB shall be marked with fabricator company or trade name, UL mark, and date code using legend ink on secondary side
- \* All PCBs shall be electrically tested for opens and shorts per gerber. Test marking shall be marked on secondary side.

Fabricator shall panelize the PCB using mouse bites and tab routing. V-scoring not allowed.

Controlled impedance differential pairs shall be within +/-10% for 100ohm targets, and +/-10% for 90ohm targets. See Sheet 3 for transmission line details and location of 90ohm differential pairs.

Title: **BW1098OAK**Number: DXXXX Revision: R0M0  
E0

Date: 10/27/2020 Sheet: 1 of 3

Drawn by: Brian Weinstein

**LUXonjs**

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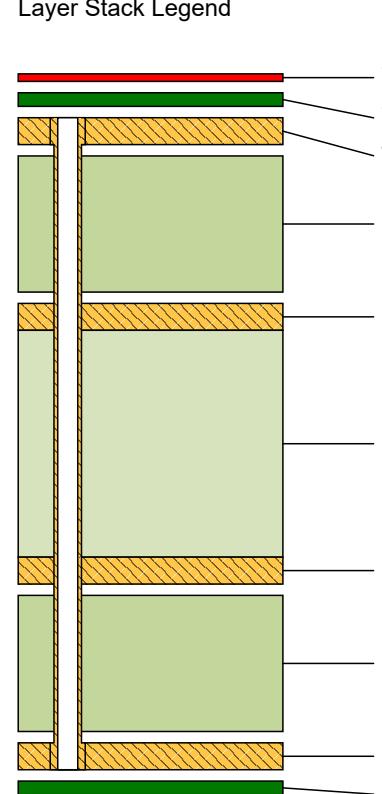
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	<p><b>Layer Stack Legend</b></p>  <table border="1"> <thead> <tr> <th>Layer</th> <th>Thickness</th> <th>Type</th> <th>Gerber</th> <th>Df</th> <th>Dk</th> </tr> </thead> <tbody> <tr> <td>Top Overlay</td> <td></td> <td>Legend</td> <td>GTO</td> <td></td> <td></td> </tr> <tr> <td>Top Mask</td> <td>0.71mil(0.018mm)</td> <td>Solder Mask</td> <td>GTS</td> <td>4.2</td> <td></td> </tr> <tr> <td>Top Copper</td> <td>1.40mil(0.036mm)</td> <td>Signal</td> <td>GTL</td> <td></td> <td></td> </tr> <tr> <td></td> <td>7.09mil(0.180mm)</td> <td>Dielectric</td> <td></td> <td>0.02</td> <td>4.2</td> </tr> <tr> <td>Signal Layer 1</td> <td>1.40mil(0.036mm)</td> <td>Signal</td> <td>G1</td> <td></td> <td></td> </tr> <tr> <td></td> <td>43.31mil(1.100mm)</td> <td>Dielectric</td> <td></td> <td>0.02</td> <td>4.2</td> </tr> <tr> <td>Layer 1</td> <td>1.40mil(0.036mm)</td> <td>Signal</td> <td>G2</td> <td></td> <td></td> </tr> <tr> <td></td> <td>7.09mil(0.180mm)</td> <td>Dielectric</td> <td></td> <td>0.02</td> <td>4.2</td> </tr> <tr> <td>Bottom Layer</td> <td>1.40mil(0.036mm)</td> <td>Signal</td> <td>GBL</td> <td></td> <td></td> </tr> <tr> <td>Bottom Solder</td> <td>0.71mil(0.018mm)</td> <td>Solder Mask</td> <td>GBS</td> <td>4.2</td> <td></td> </tr> <tr> <td>Bottom Overlay</td> <td></td> <td>Legend</td> <td>GBO</td> <td></td> <td></td> </tr> <tr> <td colspan="5">Total thickness: 64.50mil(1.638mm)</td></tr> </tbody> </table>	Layer	Thickness	Type	Gerber	Df	Dk	Top Overlay		Legend	GTO			Top Mask	0.71mil(0.018mm)	Solder Mask	GTS	4.2		Top Copper	1.40mil(0.036mm)	Signal	GTL				7.09mil(0.180mm)	Dielectric		0.02	4.2	Signal Layer 1	1.40mil(0.036mm)	Signal	G1				43.31mil(1.100mm)	Dielectric		0.02	4.2	Layer 1	1.40mil(0.036mm)	Signal	G2				7.09mil(0.180mm)	Dielectric		0.02	4.2	Bottom Layer	1.40mil(0.036mm)	Signal	GBL			Bottom Solder	0.71mil(0.018mm)	Solder Mask	GBS	4.2		Bottom Overlay		Legend	GBO			Total thickness: 64.50mil(1.638mm)							
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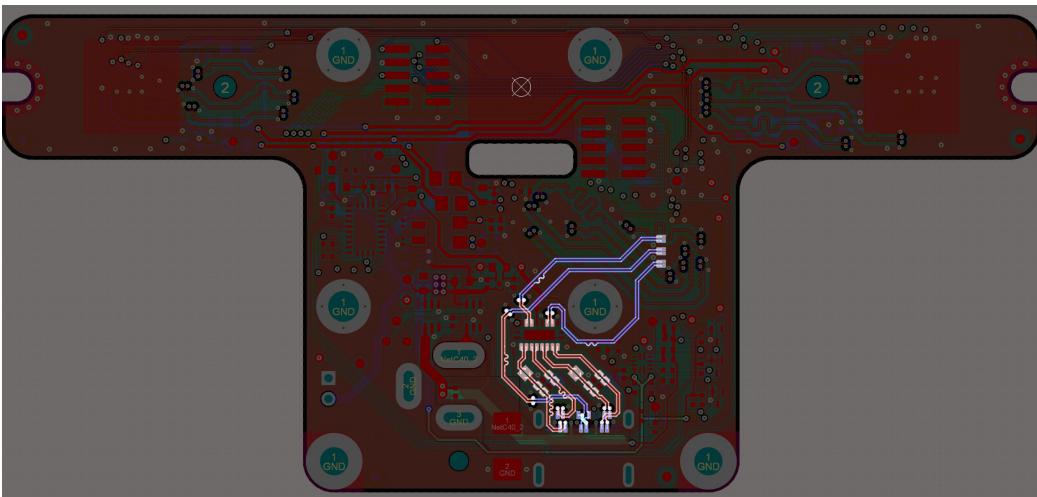
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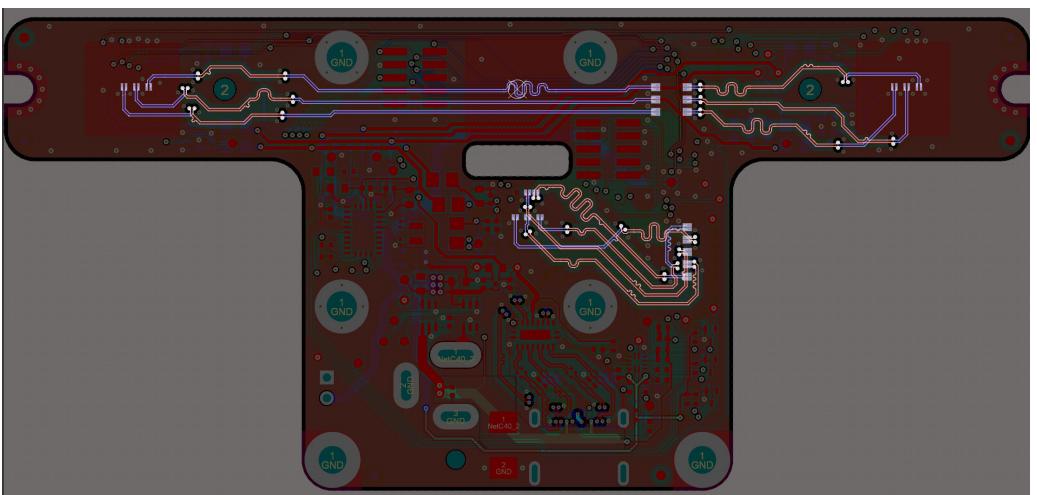
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**90 OHM (+/-10%) DIFF PAIRS**



**100 OHM (+/-10%) DIFF PAIRS**

Transmission Line Structure Table

Impedance Id	Target Impedance	Calculated Impedance	Trace layer	Lower Trace Width	Upper Trace Width	Gap	Reference layers
1	100	101.48	Top Copper	5.0mil(0.127mm)	4.2mil(0.106mm)	4.0mil(0.102mm)	Signal Layer 1
2	90	91.35	Top Copper	7.0mil(0.178mm)	6.2mil(0.157mm)	4.0mil(0.102mm)	Signal Layer 1
3	100	101.48	Bottom Layer	5.0mil(0.127mm)	4.2mil(0.106mm)	4.0mil(0.102mm)	Layer 1
4	90	91.35	Bottom Layer	7.0mil(0.178mm)	6.2mil(0.157mm)	4.0mil(0.102mm)	Layer 1

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