

\*\*\* PCB SPECIFICATION FOR BARE BOARD MANUFACTURING \*\*\*

PRODUCT OWNER : Silicon Labs  
 DOCUMENT/BOARD : PCB4314A Rev A01  
 DATE : 2020-08-11  
 REVISION : A01

PREPARED BY : Ole Jacob Bryhni Frostad  
 BOARDS pr PANEL: 12 (4 x 3)  
 PANEL SIZE : 210.2 x 205.4 mm  
 BOARD SIZE : 35.56 x 55.88 mm (1.4" x 2.2")  
 BOARD THICKNESS: 1.6 mm +/- 10 %  
 NO OF LAYERS : 2  
 MATERIAL(S) : Glass Epoxy FR-4, IPC-4101 (current revision) /101 or /121 (Tg min 130 C)  
                   Materials in compliance with the RoHS and WEEE directives  
 MARKINGS : All PCB manufacturer's markings (logo/UL code/DC code)  
                   shall be put in the PCB frame. No marking on the boards is allowed.  
                   (Avoid areas reserved for DataMatrix, Barcodes or Lables)  
 QUALITY REQ. : IPC-A-600 (current revisions) Class 2, and IPC specifications  
                   referred to by IPC-A-600  
 GENERAL REQ. : - Copper must not be added or removed from inside the board outline(s),  
                   without written consent/approval.  
                   Use the balancing of the panel that comes with the  
                   Gerber files (without alterations)  
                   If applicable, the following requirements are valid:  
                   - If Build-Up (Stack-Up) is specified, follow Build-Up,  
                     otherwise use (board manufacturer) standard Build-Up.  
                   - Break-away areas may be used for patterns, holes etc  
                     by manufacturer for QA purposes.  
                   - If V-CUT, use angle 30 +/- 5 degrees.  
                     V-CUT minimum remaining thickness 0.5 +/- 0.1 mm.  
                     Use of V-CUT test pads is allowed.  
                   - Inner radius (contour/outline) 1.2 mm, unless stated otherwise.  
 COPPER THK. : Cu thickness outer layers: 35 um (ca) After plating  
 COPPER PASSIV. : OSP (Organic Solderability Preservative)  
 RESIST MASK : Solder Mask Color: BLACK (NB! NON-STANDARD)  
                   Photo Polymer Wet film  
 VIA HOLES : PLUGGED/FILLED, IPC-4761 (current revision) Type IV-b  
                   Plugged and Covered Both Sides, Low CTE Plugging Paste  
                   If Type IV-b is not available as a process, then Type IV-a  
                   for the Top Side, and Overprinted (Tented) Bot Side is OK  
 LEGEND/SILKSCR.: WHITE, BOTH SIDES (TOP + BOT)  
                   Edge-coupled Coated Microstrip:  
 CONTROLLED IMP : 90 ohm (DP) +/-10% L1, REF=L2, W=0.203mm Gap=0.127mm  
                   Gap to Coplanar plane 0.127 mm (for 90 ohm (DP))  
                   NOMINAL VALUES for Width, Spacing and VIA Diameter:  
 Cu TRACK(TRACE): Minimum conductor width : 0.10 mm  
 Cu SPACING : Minimum conductor spacing: 0.125 mm  
 MINIMUM VIA : Minimum via pad diameter : 0.508 mm (20 mil) (via hole 0.25 mm)  
                   Min via hole may have more than one pad diameter.

(SPECIFICATION CONTINUED ON NEXT PAGE)

TEST : 100% Electrical Test  
Optical test, AOI (with automatic scanner)  
Visual inspection  
(Generate netlist from Gerber and Drill files)

Avoid use of 2125 Prepreg

If NB! is used in this specification, it is latin,  
meaning "mark well" or "observe particularly"

Nominal tolerances (if no other tolerances given)

PTH +/- 0.10 mm for  $d \leq 2.0$  mm

PTH +/- 0.15 mm for  $2.0 < d \leq 5.3$  mm

PTH +/- 0.20 mm for  $d > 5.3$  mm

NPTH +/- 0.05 mm for  $d \leq 5.3$  mm

NPTH +/- 0.10 mm for  $d > 5.3$  mm

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+++ YOUR CIRCUIT BOARD DESIGN PARTNER +++

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