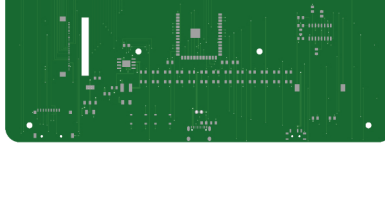
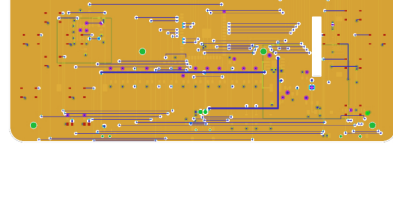


DFM analysis report_JLCDFM

File name :	gerbers.zip
Report generated at :	2026-04-03 20:36:39
PCB layers :	4
PCB size :	16x7.5cm
Analyze project :	<input checked="" type="checkbox"/> PCB DFM <input checked="" type="checkbox"/> SMT DFM



PCB DFM>Routing layer analysis

Analyze project	Analysis results	PCB screenshot	Layer distribution	Statistics
Sharp trace corner (Check for sharp corners in traces)	No	No	No	Danger: 0 Warning: 0 Good: 0
BGA pad (Check BGA pads on the board)	No	No	No	Danger: 0 Warning: 0 Good: 0
Via placed within a pad (Check if there is a via placed within a pad)	No	No	No	Danger: 0 Warning: 0 Good: 0
Trace to board edge (Detect traces too close to the board edge)	No	No	No	Danger: 0 Warning: 0 Good: 0
Trace spacing (Measure spacing between adjacent parallel traces)	0.15mm Warning		esp32-emu-turbo-B_Cu.gbl	Danger: 0 Warning: 1 Good: 2
Unconnected trace end (Free-standing trace ends not connected to pads)	null Warning		esp32-emu-turbo-F_Cu.gtl	Danger: 0 Warning: 1 Good: 0
Trace width (Trace width information)	0.2mm Good		esp32-emu-turbo-F_Cu.gtl esp32-emu-turbo-B_Cu.gbl	Danger: 0 Warning: 0 Good: 100
Fiducial (Detect fiducial marks on the board)	null Warning		esp32-emu-turbo-F_Cu.gtl	Danger: 0 Warning: 2 Good: 0
Pad to board edge (Measure distance of pads from the board edge)	0.28mm Good		esp32-emu-turbo-F_Cu.gtl esp32-emu-turbo-B_Cu.gbl	Danger: 0 Warning: 0 Good: 4
Pad spacing (Measure pad to pad spacing)	0.07mm Danger		esp32-emu-turbo-F_Cu.gtl esp32-emu-turbo-B_Cu.gbl	Danger: 2 Warning: 1 Good: 63
Plated through-hole to trace clearance (Measure clearance of plated through-holes to traces)	No	No	No	Danger: 0 Warning: 0 Good: 0
Annular ring (Annular ring width of pads compared to holes)	0.13mm Warning		esp32-emu-turbo-F_Cu.gtl esp32-emu-turbo-B_Cu.gbl	Danger: 0 Warning: 75 Good: 25
tht to smd (Detect clearance of vias to pads)	3.05mm Good		esp32-emu-turbo-B_Cu.gbl	Danger: 0 Warning: 0 Good: 35
Via to pad (Detect clearance of vias to pads)	No	No	No	Danger: 0 Warning: 0 Good: 0

PCB DFM>Soldermask layer analysis

Analyze project	Analysis results	PCB screenshot	Layer distribution	Statistics
Soldermask bridge (Detect distance between parallel soldermask opening edges)	No	No	No	Danger: 0 Warning: 0 Good: 0
Solder mask opening exposing trace (Detect clearance of solder mask openings to nearby traces)	No	No	No	Danger: 0 Warning: 0 Good: 0
Soldermask opening with multiple segments (Check if solder mask openings are constructed from multiple geometric shapes)	No	No	No	Danger: 0 Warning: 0 Good: 0
Negative soldermask expansion (Detect solder mask openings smaller than their corresponding pads)	No	No	No	Danger: 0 Warning: 0 Good: 0

PCB DFM>Silkscreen layer analysis

Analyze project	Analysis results	PCB screenshot	Layer distribution	Statistics
Silkscreen to pad (Detect clearance of silkscreen to pads)	No	No	No	Danger: 0 Warning: 0 Good: 0
Silkscreen to hole (Detect clearance of silkscreen to holes)	No	No	No	Danger: 0 Warning: 0 Good: 0
Silkscreen line width (Check silkscreen line width)	No	No	No	Danger: 0 Warning: 0 Good: 0

PCB DFM>Drill layer analysis

Analyze project	Analysis results	PCB screenshot	Layer distribution	Statistics
Unconnected via (Detect isolated unconnected vias)	No	No	No	Danger: 0 Warning: 0 Good: 0
Missing plated through-hole (Detect top and bottom pads at the same location without plated through-holes)	No	No	No	Danger: 0 Warning: 0 Good: 0
Unconnected via (Detect isolated unconnected vias)	No	No	No	Danger: 0 Warning: 0 Good: 0
Plated through-hole spacing (Measure spacing between plated through-holes)	No	No	No	Danger: 0 Warning: 0 Good: 0
Short slot detection (Detect slots shorter than twice their width)	No	No	No	Danger: 0 Warning: 0 Good: 0
Slot width check (Measure slot width)	No	No	No	Danger: 0 Warning: 0 Good: 0
Via to PTH spacing (Measure spacing of vias to plated through-holes)	No	No	No	Danger: 0 Warning: 0 Good: 0
Unconnected via (Detect isolated unconnected vias)	null Warning		esp32-emu-turbo.drl	Danger: 0 Warning: 14 Good: 0

SMT DFM>Component assembly analysis

Analyze project	Analysis results	PCB screenshot	Layer distribution	Statistics
Component through-hole (Detect misalignment of component through-hole pins to pad holes)	No	No	No	Danger: 0 Warning: 0 Good: 0
Component collision warning (Component collision warning;Component 1;Component 2)	No	No	No	Danger: 0 Warning: 0 Good: 0
Component spacing (Component to component spacing;Component 1;Component 2)	0.91mm Good		component+_bottom component+_top	Danger: 0 Warning: 0 Good: 51
Component to board edge distance (Measure distance from component outline to the board edge)	No	No	No	Danger: 0 Warning: 0 Good: 0
Lead to hole distance (Detect clearance of component leads to holes)	0mm Danger		component+_bottom	Danger: 14 Warning: 0 Good: 0
Component through-hole (Detect misalignment of component through-hole pins to pad holes)	No	No	No	Danger: 0 Warning: 0 Good: 0
Component pad spacing (Detect clearance between pads of the same component)	No	No	No	Danger: 0 Warning: 0 Good: 0
Component clipped by board outline (Detect component boundary clipping by the board outline)	1.4mm Warning		component+_bottom	Danger: 0 Warning: 3 Good: 0
Pin inner edge (Measure if component pin edges extend past pad edges)	0.08mm Danger		component+_bottom	Danger: 50 Warning: 0 Good: 0
Pin left edge (Measure if component pin edges extend past pad edges)	0.02mm Danger		component+_bottom	Danger: 50 Warning: 0 Good: 0
Pin without pad (Detect if component pins without pads)	No	No	No	Danger: 0 Warning: 0 Good: 0
Pin outer edge (Measure if component pin edges extend past pad edges)	No	No	No	Danger: 0 Warning: 0 Good: 0
Pin right edge (Measure if component pin edges extend past pad edges)	0.03mm Danger		component+_bottom	Danger: 50 Warning: 0 Good: 0
Component through-hole (Detect misalignment of component through-hole pins to pad holes)	0.07mm Good		component+_bottom	Danger: 0 Warning: 0 Good: 2
Component through-hole (Detect misalignment of component through-hole pins to pad holes)	No	No	No	Danger: 0 Warning: 0 Good: 0
Component through-hole (Detect misalignment of component through-hole pins to pad holes)	No	No	No	Danger: 0 Warning: 0 Good: 0
Missing hole for component pin (Detect component through-hole pins without corresponding holes)	0.9mm Danger		component+_bottom	Danger: 4 Warning: 0 Good: 0
Lead area overlapping pad (Detect insufficient overlap between component pins and pads)	0.01mm Danger		component+_bottom	Danger: 50 Warning: 0 Good: 0