

DK Board Stackup - Draft

Goals:

About a 80 to 85 mil thick pcb

A strong board that can be assembled with normal THD pin tail length parts

100 Ohm Diff Pair with about 0.14 mm wide traces on 0.4 mm centers

Small coupling: from L3 to L4, from L6 to L7, and from L9 to L10

A stackup that is straight forward to build and makes a reliable bare pcb

Core or PP ? about 4.5 mil	L1 - Pads & Traces	0.5 oz start
Core or PP ? about 6.0 mil	L2 - Ground Plane	0.5 oz
Core or PP ? about 14 mil	L3 - Traces	0.5 oz
Core or PP ? about 6.0 mil	L4 - Traces	0.5 oz
Core or PP ? about 4.0 mil	L5 - Ground Plane	0.5 oz
Core or PP ? about 8 mil	L6 - 13x Power Fills	1.0 oz
Core or PP ? about 4.0 mil	— - — - — Center & Symmetric	
Core or PP ? about 6.0 mil	L7 - 12x Power Fills	1.0 oz
Core or PP ? about 14 mil	L8 - Ground Plane	0.5 oz
Core or PP ? about 6.0 mil	L9 - Traces	0.5 oz
Core or PP ? about 4.5 mil	L10 - Traces	0.5 oz
	L11 - Ground Plane	0.5 oz
	L12 - Pads & Traces	0.5 oz start

For approximate trace Zo calculations I have assumed that:

1.0 oz Cu is about 1.4 mils thick 0.5 oz Cu is about 0.7 mils

That the Traces sink into Core/PP and that Planes do not

Isola FR408HR Laminate has a Dk of about 3.55

That the Solder Masks are 0.5 mil thick with a Dk of about 3.5

Core in mils: 3.0, 3.5, 4.0, 4.5, 5.0, 5.5, 6.0, 7.0, 8.0, 10.0, 12.0

PP in mils: 1.9, 2.3, 2.7, 3.2, 3.5, 4.0, 4.2, 4.9