

# PCB Specification

Date: 5h April 2011  
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Board name: **ROACH 2**  
Revision: **1**  
Release: **A**

## PCB Details

<i>PCB Specifications:</i>	IPC 6012 Class 2
<i>Finished Board Size:</i>	12 x 9.6 inches [305x244 mm]
<i>PCB Type:</i>	Multi-layer
<i>Layer Count:</i>	16
<i>Dielectric:</i>	All dielectric layers to be Isola 370HR high temperature laminate
<i>Nominal board Thickness:</i>	93 mil (2.38 mm); tolerance +/-10%
<i>Hole tolerance:</i>	+3mil for vias; +/- 3mil for component holes and slots
<i>Finish:</i>	ENIG
<i>Soldermask:</i>	Green
<i>Silkscreen:</i>	White
<i>Minimum clearance:</i>	4 mil
<i>Handling rails:</i>	.5 inch (12.7mm) rails, V-scored

## PCB Stackup

Layer	#	Copper (oz)	Dielectric (mil)**	Filename
Pastemask Top		-	-	roach2.GTP
Silkscreen Top		-	-	roach2.GTO
Soldermask Top		-	-	roach2.GTS
Signal Top	1	0.5		roach2.GTL
			3mil	
Ground 1	2	0.5		roach2.GP1
			5mil	
Signal 1	3	0.5		roach2.G1
			5mil	
Ground 2	4	0.5		roach2.GP2
			5mil	
Signal 2	5	0.5		roach2.G2
			5mil	
Power 1	6	1		roach2.GP3
			**	
Ground 3	7	1		roach2.GP4
			4mil	
Signal 3	8	0.5		roach2.G3
			4mil	
Signal 4	9	0.5		roach2.G4
			4mil	
Power 2	10	1		roach2.GP5
			**	
Power 3	11	1		roach2.GP6
			5mil	
Signal 5	12	0.5		roach2.G5
			5mil	
Power 4	13	0.5		roach2.GP7
			5mil	
Signal 6	14	0.5		roach2.G6
			5mil	
Ground 4	15	0.5		roach2.GP8
			3mil	
Signal Bottom	16	0.5		roach2.GBL
Soldermask Bottom		-	-	roach2.GBS
Silkscreen Bottom		-	-	roach2.GBO
Pastemask Bottom		-	-	roach2.GBP

\* Thickness may be adjusted to achieve nominal total thickness of 93 mil, to satisfy impedance targets and to accommodate manufacturing processes.

## Impedance Controlled Traces

All impedance matching to +/- 10%

### *Microstrip*

Layers: Signal Top (#1), Signal Bottom (#16)  
Target Impedance: 50 ohm  
Trace thickness: 5 mil ( 127um )

### *Stripline*

Layers: Layers: Signal 1 (#3), Signal 2 (#5), Signal 5 (#12), Signal 6 (#14)  
Target Impedance: 50 ohm  
Trace thickness: 3.8 mil ( 96.52 um )

### Asymmetrical Stripline

Layers: Signal 3 (#8), Signal 4 (#9)  
Target Impedance: 50 ohm  
Trace thickness: 3.8 mil ( 96.52 um )