



# Rigid PCB Manufacturing Capabilities

## PCB Types

CAP or Foil Construction	Controlled Impedance
Blind/Buried via	Mixed Inner Copper Weights
Flex	Mixed Materials
Rigid-Flex	(HDI) High Density Interconnect

## Aluminum Core PCB

Single, Double Sided and Multi-Layer Aluminum Core

Item	English	Metric
<b>LAMINATE</b>		
Max Board Thickness	314.96 mil	8.00 mm
Min Board Thickness (2 Layers)	6 mil	0.15 mm
Min Board Thickness (4 Layers)	11.8 mil	0.3 mm
Min Core Thickness ( <i>Not including copper</i> )	2 mil	0.05 mm
Largest Panel Size	22.5" x 33.5"	571 mm x 850 mm
Min Pre-Preg Thickness	2.3 mil	0.051 mm
Board Thickness Tolerance (Standard)	+/- 10%	
Board Thickness Tolerance (Upon Request)	+/- 5%	
<b>COPPER</b>		
Max Inner Layer Copper Thickness	4oz	0.14 mm
Min Inner Layer Copper Thickness	0.3 oz	0.01 mm
Max Outer Layer Copper Thickness	7oz	0.243 mm
Min Outer Layer Copper Thickness	0.75 oz	0.026 mm
<b>DRILL</b>		
Min Drill Size	8 mil	0.203 mm
Min Laser Drill Size	3 mil	0.076 mm
Min Mechanical Aspect Ratio ( <i>Laminate / Drill</i> )	12/1	
<b>TRACES / SPACES</b>		
Min Line Width/Spacing (Outer Layer)	2.5 / 3 mil	0.0635 mm/0.0752 mm
Min Line Width/Spacing (Inner Layer)	2.5 / 3 mil	0.0635 mm/0.0752 mm
Min SMT Pitch	6 mil	0.15 mm
Min BGA Pitch	4 mil	0.1 mm
<b>SOLDER MASK</b>		
Min Solder Mask Print Width (Mask Dam)	3 mil	0.076 mm
Solder Mask Registration Tolerance	+/- 2 mil	0.050 mm
<b>CONTROLLED IMPEDANCE</b>		
Controlled Impedance (Standard)	45 Ohm +/- 10%	
Controlled Impedance (Upon Request)	40 Ohm +/- 7%	
<b>SURFACE FINISHES</b>		
Lead Solder (HASL)	OSP (Entek)	
Lead Free Solder (HASL)	Deep/Hard Gold (Electrolytic Nickel Gold)	
Immersion Gold (Electroless Nickel Gold - ENIG)	Wirebondable Gold (99.99% Pure Gold)	
Immersion Silver	Flash Gold	
Immersion Tin (White Tin)	Carbon Ink	
<b>MATERIALS</b>		
FR4 (140°C Tg) Standard (Nan-Ya, Norplex, ITEQ)	Rogers	
FR4 (180°C Tg) High Temp (Nan-Ya, Norplex, ITEQ)	Polyimide (Kapton)	
Arlon	Nelco	
GeTek	Alumina	
Ceramic	Bakelite	