

## Manufacturing Capabilities

Capability	Standard Production	Advanced Capability	
Maximum Production Panel Size	610 x 457 mm	610 x 533 mm	
Board Thickness	0.25 mm to 5.50 mm Scored: - 0.30 mm to 3.2 mm	0.10 mm to 5.50 mm Scored: - 0.30 mm to 3.2 mm	
Minimum Aspect Ratio	Through Hole: - 10: 1 Blind Hole: - 1: 1	Through Hole: - 16: 1 Blind Hole: - 1:1	
Multilayer	Maximum: - 24 layers	Maximum: - 48 layers	
Core Thickness	Minimum: - 0.05 mm Maximum: - 2.40 mm	Minimum: - 0.05 mm Maximum: - 5.5 mm	
Copper Thickness	Inner: - 18 μm   35 μm   50μm Outer: - 12 μm   18 μm   35 μm   70 μm   105 μm	Other thicknesses available on request	
Copper Plating	Minimum: - 25 μm Maximum: - 50 μm	Minimum: - 25 μm Maximum: - 210 μm	
Conductor Width / Spacing	Minimum: - 0.075 mm / 0.075 mm	Minimum: - 0.050 mm / 0.050 mm	
Annular Ring	Minimum above finished hole size: 0.075mm	Inner Layer: - From 0.050 mm Outer Layer: - From 0.050 mm	
Inner Layer Clearances	Minimum clearance from copper plane to plated or non- plated hole: 0.25mm	Minimum clearance from copper plane to plated or non-plated hole: 0.2mm	
Profile Clearances	Minimum clearance from copper plane to circuit profile (Routed): 0.20mm Minimum clearance from copper plane to score centre line: 0.5mm	Minimum clearance from copper plane to circuit profile (Routed): 0.15mm Minimum clearance from copper plane to score centre line: 0.5mm	



## **Product Range**

Circuit Board	Description	
Rigid	Multilayer, Double and Single sided.	
Mixed material builds	An advanced rigid board with varying layers of circuits consisting of multiple board materials and thickness	
Polyimide	Advanced material with exceptional thermal and dielectric properties	
PTFE	Advanced material with outstanding dielectric properties used for RF/Microwave applications	
Insulated Metal Substrates (IMS)	Materials designed to aid heat dissipation	
Flex	Multilayer, Double and Single sided	
Flex Rigid	PCBs with both Flex and Rigid elements	
Sculptured Flex	PCBs consisting of flexible circuit boards with varying thicknesses (can include assembly of rigid components)	
Surface Mount Interconnects (SMI)	A robust, flexible board-to-board interconnection solution utilising industry standard manufacturing equipment	



## Technology

Technology	Description	
Blind Vias	Drilled holes within a multilayer PCB connecting the outer layer to one or more inner layers	
Buried Vias	Drilled holes within a multilayer PCB connecting inner layers	
Copper-Filled Vias	Drilled holes within a multilayer PCB connecting the outer layer to one or more inner layers, filled with copper for enhanced conductivity	
Resin Filled and Plugged vias	IPC types III, IV, V and VI	
Capped Vias	Resin filled and plated over (IPC type VII)	



## Surface Finishes

Metal Finish	In-House / Sub-Contract	Typical Thickness
Electroless Nickel Immersion Gold (ENIG)	In-House	Ni 4μm – 6μm Au 0.05μm – 0.1μm
Electroless Nickel Electroless Palladium Immersion Gold (ENEPIG)	In-House / Sub-Contract	Ni 3μm – 5μm Pd 0.1μm – 0.5μm Au 0.025μm – 0.05μm
Electroplate Gold (Hard) Over Nickel	In-House	Ni 1.0 - 6.0μm Au 1.0μm – 3.0μm
Electroless Gold (Soft) Direct Over Copper	In-House	Au 0.05μm – 1.0μm
Immersion Silver	In-House	0.1μm – 0.25μm
Immersion Tin	Sub-Contract	Sn 1.0μm – 1.1μm
Hot Air Solder Level (HASL)	In-House	10μm – 25μm
Lead-Free Hot Air Solder Level In-house	In-house	10μm – 25μm
Organic Solderability Preservative (OSP)	In-House	0.2µm
Silver Ink	In-House	
Carbon Ink	In-House	
Solder mask	In house – Range of colours and finishes available	