



Process Technology	Capability Element	Working Capability 2020	Developmental Capability (2020-2021 Horizon)
THE PCB CONNECT GROUP RIGID CAPABILITY - APRIL 2020			
Short Form Capability as of April 2020	Layer Count Production & QTA	1-40L Production & Quick Turnaround	>60 Layer
	Maximum Board Size (mm)	1100 x 610	1400 x 610
	Board thickness range (mm)	0.15 to 10mm	0.15 to 14mm
	Board thickness tolerance	T<1.0 mm: ±0.08mm ; 1.0≤T<1.6mm:±0.13mm ; 1.6≤T<2.0mm:±0.15mm ; 2.0≤T<2.4mm:±0.20mm ; 2.4≤T<3.0mm:±0.25mm ; 3.0≤T<3.5mm:±0.28mm ; 3.5≤T<4.0mm:±0.30mm ; T≥4.0mm: ±10%	T<1.0 mm: ±0.08mm ; 1.0≤T<1.6mm:±0.13mm ; 1.6≤T<2.0mm:±0.15mm ; 2.0≤T<2.4mm:±0.20mm ; 2.4≤T<3.0mm:±0.25mm ; 3.0≤T<3.5mm:±0.28mm ; 3.5≤T<4.0mm:±0.30mm ; T≥4.0mm: ±10%
Materials Selection (for full list of PCB Materials available please contact your local PCB Connect Group Business)	Standard Rigid Material	Shengyi, Elite, Kingboard, NanYa, TUC, Grace, Ventec, Isola, Taconic, Rogers, Panasonic, Nelco, ITEQ	Shengyi, Elite, Kingboard, NanYa, TUC, Grace, Ventec, Isola, Taconic, Rogers, Panasonic, Nelco, ITEQ
	Low Loss Material Capability	Megtron-4 + 4S, S7038,S7439, S7439C,TU872SLK, FR408HR, EM-828, EM888, N4000-13 + N4800-20 range of materials, IT968	Megtron-4 + 4S, S7038,S7439, S7439C,TU872SLK, FR408HR, EM-828, EM888, N4000-13 + N4800-20 range of materials, IT968
	Metal Base Partners	Berquist, Kinwong, Ventec, Doosan, Denka, Arlon	Berquist, Kinwong, Ventec, Doosan, Denka, Arlon
	Ceramic Material Partners	Rogers, Arlon, Shengyi, Taconic	Rogers, Arlon, Shengyi, Taconic
	PTFE Partners	Panasonic, Arlon, Rogers	Panasonic, Arlon, Rogers
Copper Weight Inner Layer	Maximum Copper Weight Inner Layer	12 oz	15 oz
Copper Weight Outer Layer	Maximum Copper Weight Outer Layer	12 oz	15 oz
Inner Layer Capability	Min Line width/Spacing (0.5oz)	3/3 mil	3/3 mil
	Min Line width/Spacing (1.0oz)	3/3mil	3/3mil
	Min Line width/Spacing (2.0oz)	6/6mil	6/6mil
	Min Line width/Spacing (3.0oz)	7/7mil	7/7mil
	The Min distance hole to copper	0.15mm min	0.15mm min
	The Min Regisation for laminate	~+/-0.10mm	~+/-0.10mm
Outer Layer Capability	Min Line width/Spacing (0.5 oz)	3/3 Mil	2/2 Mil
Controlled Impedance	Controlled Impedance +/- %	+/-7%	+/- 5%
Drilling Capability	Drill bit Range	0.15mm-6.8mm	0.15mm-6.8mm
	Minimum Mechanically Drilled Hole	0.15mm	0.10mm
	Slot tolerance	~+/-3mil	~+/-3mil
	Minimum Slot Width	0.4mm	0.4mm
	Minimum Distance Between Via Wall	0.15mm	0.15mm
	Hole wall roughness	<25um	<25um
	The min depth for control routed	0.15mm	0.15mm
	The depth tolerance for controlled routing	~+/-3mil	~+/-3mil
	Angle	30°, 45°, 60°, 90°	30°, 45°, 60°, 90°
	The Max depth for backdrill	6.0mm	6.0mm
	The min backdrill hole	0.15mm	0.15mm
	Backdrill depth tolerance	~+/-4mil	~+/-4mil
	Backdrill accuracy	~+/-2mil	~+/-2mil
	Aspect Ratio PTH	20:01	22:01
	Aspect Ratio Blind Via Hole	0.8:1	1.4:1
	copper plated tolerance	<5um	<5um
	Color for soldermask	Green, Blue, Red, Yellow, Black, White	

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Soldermask	Soldermask Brands Available	Taiyo, Peters, Rongda, Lianzhi	Taiyo, Peters, Rongda, Lianzhi
	Soldermask thickness	At trace shoulder:>10 (0.4mil) On copper surface:>15 (0.59mil)	At trace shoulder:>10 (0.4mil) On copper surface:>15 (0.59mil)
	Coverage for soldermask plug	60%	60%
	Coverage for resin fill plug	100%	100%
	Minimum Solder Mask Dam	0.10mm	0.05mm
	Minimum Solder Mask Clearance	0.075mm	0.025mm
Silkscreen	Available Silkscreen Colour	White, Yellow, Black	White, Yellow, Black
Surface finish	Available Surface Finishes	ENIG, Immersion Tin,HASL,Pb free HASL,OSP, Plated heavy Au,Immersion Ag, ENEPIG, ASIG, Selective Hard and Soft Gold,	ENIG, Immersion Tin,HASL,Pb free HASL,OSP, Plated heavy Au,Immersion Ag, ENEPIG, ASIG, Selective Hard and Soft Gold,
Gold finger	Au thickness	0.025-1.51um	0.025-1.51um
	Ni thickness	2-12UM	2-12UM
	Chamfer angle	15°~60°	15°~60°
	Chamfer length	No limit	No limit
	Chamfer length tolerance	±0.1MM	±0.1MM
Routing Process	Profile tolerance	~+/-3mil	~+/-3mil
	The min Routed tooling	0.8mm	0.8mm
V-CUT	Jump V-score	Y	Y
	The min distance for jump V-score	5.0mm	5.0mm
	The Max work panel	580*900mm	580*900mm
	The Max board thickness	4.00mm	4.00mm
	The tolerance for v-score remain thickness	±0.10mm	±0.10mm
	Angle	30°,45°, 60°	30°,45°, 60°
	The accuracy for the v-score both sides	±0.1mm	±0.1mm
Buried capacitance	capacitance material (3M c-ply)	3M C-PLY	3M C-PLY
	single etch Or double etch	Double sided etch	Double sided etch
	Maximum Available Layercount	14L	16L
Peelable soldermask		Available	Available
Carbon Print		Available	Available
Mixed Substrates	FR4 and Rogers	Available	Available
	FR4 and PTFE	Available	Available
Heavy copper (over 5.0oz inner layer)	over 5.0oz inner layer	Available	Available
	The Max layers	20L	20L
Epoxy via Plugging to IPC4761 Type VI	Available	Min via size : 0.3mm Aspect Ratio : 10:1	Min via size : 0.3mm Aspect Ratio : 10:1
Control depth Drill	accuracy	±0.1mm	±0.1mm
	Aspect Ratio	01:01	01:01
THE PCB CONNECT GROUP HDI CAPABILTY - APRIL 2020			
HDI Constructions	1+N+1	Available	Available
	2+N+2	Available	Available
	3+N+3	Available	Available
	4+N+4	Available	Available
	Any Layer Interconnect (ALIC)	Available	Available
Material	HDI normal core	ITEQ, Shengyi,EMC	ITEQ, Shengyi,EMC
	HDI normal Prepreg	106/2113	106/2113
Board thickness	The Max board thickness	10mm	10mm
	The Min board thickness	0.3mm	0.3mm
Layers	The Max	32L	32L
	The Min	3/3mil	3/3mil
Inner layer	Min Line width/Spacing	3/3mil	3/3mil
	The Min distance hole to copper	0.15mm	0.15mm
Laser drill	The Min Laser vias	0.075mm	0.075mm
	Aspect Ratio	01:01	01:01
Fill vias by plating	Filled vias by plating	Available	Available
Laminate	Copper foil (1/4oz,1/3oz,3/8oz)	ok	ok
	Registration	±0.1mm	±0.1mm
Laser drill method	LDD	Yes	Yes
	Large window	Bigger than hole size for 0.075mm(Single side)	Bigger than hole size for 0.075mm(Single side)
	Same window	ok	ok
Outer layer	Min Line width/Spacing	3/3mil	3/3mil
	The Min distance hole to copper	0.15mm	0.15mm