

Realizing Your Innovations

Over 28 Years of Expertise in PCB Industry and Quick-Turn Services

Flexible PCB Manufacturing

Since 1997, KINGBROTHER has specialized in high-speed PCB layout design and manufacturing, serving over 18,000 customers worldwide and helping them bring products from prototype to market quickly. With five design centers and four manufacturing bases, we provide comprehensive capabilities for high-end, complex products.

Our product type covers high-speed multi-layer boards, metal-based boards, thick copper boards, and rigid-flex boards, all without minimum order quantity requirements. They are widely applied to communication, automotive, industrial control, AI, and medical equipment. We have become a major supplier for leading global enterprises, with whom we have established long-term and stable cooperative relationships.

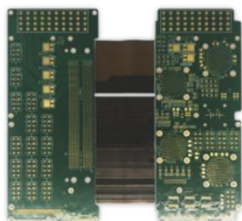
Item	Technical capability	
	Prototyping	Mass production
Product type	Embedded capacitor, Embedded resistor, Embedded component, Embedded copper, Embedded ceramic, Bump - plated copper, Thick GEM board, 800G high - speed optical module, 6G antenna product, Thermoelectrically separate copper - based board, 800G optical module, DBC ceramic board, High - resistance carbon ink board, Mini - LED board, Semi - flexible board, Substrate Like-PCB, Packaging substrate	Single and double layer, Multi - layer board, High - frequency step board, HDI board, Rigid - flex board, Heavy copper board, High - frequency hybrid board, Mechanical blind and buried via board, Metal - based board, Metal sandwich board, High - speed backplane, 100G/400G high - speed optical module, 24G/77G radar antenna PCB, 5G coupler PCB
Material	Lead free/Halogen-free	Shengyi S1000H, S1000-2M, S1150G, S1170G; Wazam H150, H1170; ITEQ IT158, IT180A; TUC TU752, TU865
	High-speed	Shengyi S7439, S6B, S6N, S8GN, S9GN; Panasonic M6, M7N, M8N; TUC TU872-SLK, TU863+, TU883, TU933+, TU943N, TU943SR; Wazam HSD7, HSD8; EMC EM892K
	High-frequency	RO3003, RO4000 series; Taconic TLY-5, TLX-8, TSM-DS3; Shengyi SG220/255/300/S7136H/SJ9036/SG7350D/SG7615N/SJ9618/SJ9300/SJ9220/SJ9110L; WL F4BTME/F4BTMS series; FSD220/255/300/615T/1020T
	Flex	Thinflex W series, High-speed flex board (LK series) ; Panasonic R-F775 series; Dupont AG flex; Shengyi SF202 flex series, SB170G half flexible series; Allstar AS2L flex series
	Others	BT material (Shengyi SI10US), Insulation film (Newccess NBF, Wazam CBF) High thermal conductivity material (Shengyi ST115GB), Copper-based, Aluminium base, PI (VT901), Pure ceramic substrate, Embedded capacitor , Embedded Resistor, Copper Foil, Embedded magnetic core, High resistance carbon ink

Item		Technical capability	
		Prototyping	Mass production
Signal transmission rate		Max:112Gbps	Max:25Gbps
Layer count	FR4	68	32
	Rigid-flex	Total layers/Flex layers: 32/30	Total layers/Flex layers: 20/12
	High-frequency hybrid	28	20
	PTFE	24	16
	HDI	30/Anylayer	26/4 step
	SLP	10	6
Delivery board size	Rigid board	Max:550mm*900mm	Max:550mm*620mm
	Double-sided flexible board	Max:2450*100mm	Max:1250*200mm
Max. Board Thickness		12mm	6.5mm
Line width/space	PCB	Min:2.0/2.0 mil	Min:2.5/2.5 mil
	IC substrate	Min:25/25μm	Min:35/35μm
Max. Copper Thickness		18 OZ	6 OZ
Min. Drill Hole Diameter	Mechanical	Min:0.10mm	Min:0.15mm
	Laser drilling	Min:0.06mm	Min:0.10mm
	Half plated hole	Min:0.30mm	Min:0.40mm
Spacing between via hole wall	Same network	Min:0.13mm	Min:0.2mm
	Difference network	Min:0.20mm	Min:0.25mm
Spacing between hole and conductor (Inner layer)	≤10L	Min:0.125mm	Min:0.15mm
	>10L	Min:0.15mm	Min:0.18mm
Max. Aspect Ratio	Through Via	25:1	16: 1
	Blind via(laser drilling)	1:1	0.8:1
Min. Solder mask Dam	Green	Min:3.0 mil	Min:4.0 mil
	Other color	Min:4.0 mil	Min:5.0 mil
Hole diameter for filling resin		0.08-0.8 mm	0.1-0.6 mm
Impedance control tolerance		±5%	±10%
Gold thickness	ENIG	MAX: 5-8u"	MAX: 3-5u"
	Electroplated Soft Gold	MAX: 80-120u"	MAX: 1-3u"

	Electroplated hard Gold	MAX: 80 u"	MAX: 30 u"
Surface Finish	HASL, LF HASL, OSP, Immersion Tin, Immersion silver, ENIG, ENEPIG, plating gold, Plating Ni, Plating Hard gold(gold finger), plating soft gold(bonding)		
Special	Metal core, embedded copper, ultra - heavy copper (10 - 18OZ), bump - plated copper, stepped gold finger, embedded components, embedded ceramic, embedded resistor, solderable metal plate, high - resistance carbon ink, laser - drilled through - hole, copper paste - filled via, steel sheet stiffener, ceramic stiffener, alloy stiffener, thermoelectric separation; HDI stack via, Peelable mask, Laser cut, epoxy plug, Combination Surface Treatment, heavy copper blind & buried via, rigid flex, high frequency hybrid, Long and short gold fingers, Back drilling, Control depth routing, Via in pad, Half Plated Hole, Countersink hole, step slot		

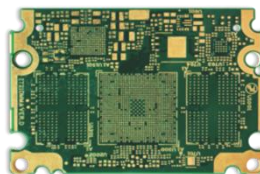
The Circuits Solutions

1.High Multi-Layer Rigid-Flex Board



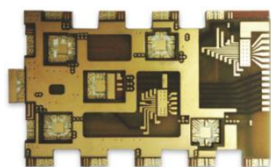
Application: communication
Layers: 26L (flex 8 layers)
Thickness: 4.0mm
Minimum line width/space: 4.0mil/4.0mil

2.Three Steps HDI Board



Application: communication
Material: 1TU872SLK
Layers: 12L
Thickness: 1.6mm
Minimum line width/space: 2.0mil/2.0mil

3.High-Frequency Mixed-Pressure Stepped Board



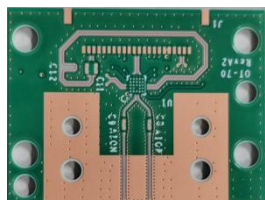
Application: communication
Material: RO4350B+S1000-2
Layers: 8L
Thickness: 1.5mm
Special technology: three-step groove

4.High-Speed Backplane Board



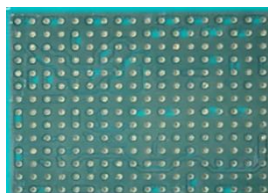
Applications: communication
Material: M6
Layers: 26L
Thickness: 5.5mm
Minimum line width/space: 4.5mil/4.5mil

5.Substrate(-Like)



Application: communication
Material: TU933 high-speed substrate + insulation film
Layers: 6L
Blind holes: 50µm
BGA: 150µm
Blind hole diameter ratio: 1:1

6.FCCSP Package Substrate



Application: Analog-to-digital converter processors
Material: SI10US + NBF film
Layers: 6L
Thickness: 0.35mm
Line width and space: ≥25/50µm

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KINGBROTHER
Circuit Your Wisdom