KINGBROTHER
Circuit Your Wisdom

Technological Capabilities

IDH Design Capabilities

Item	Function	Capabilities
Processor	ARM	TI：AM3358，AM4376,AM5728 NXP：i.MX6, i.MX8, LS1043 Rockchip：RK3288,RK3399,RK3566,RK3568,RK3588 Allwinner：T3，T5，A20 Hisilicon： Hi3519，Hi3559
	GPU	Nvidia：Jetson AGX Xavie Horizon Robotics：J3，J5，X3 Intellifusion：EDGE10 series
	FPGA	XILINX： ZYNQ7020
	DSP	TI ：TMS320C6678 TMS320C665x
Storage	DDR/SDRAM	SDRAM,DDR2,DDR3,LPDDR3,DDR4,LPDDR4
	eMMC/Nand	eMMC,Nand FLASH
	Others	SPI FLASH,QSPI FLASH,EEPROM,SRAM
	External storage	SSD,Hard disk,USB flash disk，TF card，SD card
Communication Interface	/	UART,I2C,SPI,CAN,LIN, Ethernet,USB2.0,USB3.0, Type C,SDIO,PCIE, SATA,SerDes,Telecommunication, Peripheral Bus
Display Interface	Display	HDMI,DVI,VGA,LVDS,MIPI DSI,DP,CVBS,EDP,SDI
	Touch Screen	Capacitive touch，resistive touch
Camera Interface	/	MIPI CSI，DVP，Ethernet camera
Voice	/	I2C，TDM，PCM
Power	/	DC，AC
Product design	ID design	Appearance style, material, color matching, electromechanical coordination
	Structural design	Materials, processes, mold opening optimization, reinforcement, protective design, electromechanical

		collaboration
Software	OS	Android，Linux,Wince,Ubuntu,Debian
	Others	BSP Development
Product Integration	Complete Machine	Complete machine design solutions, Customized solutions, BOM procurement, PCBA production test, Complete machine production assembly test

PCB Technology Capabilities

Items		Technology Capabilities	
		Prototype	Volume
Product category		Buried resistance buried capacitance board, buried magnet board, buried component board, buried copper block board, buried ceramic PCB, ceramic board, high-resistance carbon oil board, backlight mini-led board, semi-flexible board, Substrate board, IC substrate board	Single and double side boards, multilayer boards, high-frequency step boards, HDI boards, rigid-flex boards, heavy copper boards, high-frequency hybrid boards, mechanical blind buried boards, metal substrates board, metal core boards, high-speed backboards, high-speed optical modules, millimeter-wave radar PCB, and 5G coupler PCB.
Transmission speed		Max:112Gbps	Max:25Gbps
Layer	FR4	68	30
	Rigid-Flex	Total layer/Flex layer: 30/26	Total layer/Flex layer:20/12
	High frequency mixed pressure	28	20
	PTFE Pure PTFE	24	16
	HDI	28/any step	20/4 step
	iC substrate	10	2layer/4 layer
Board size	Rigid board	Max:550mm*1000mm	Max:500mm*550mm
	2L Flex board	Max:2000*200mm	Max:1250*200mm
Max. board thickness		12mm	6mm
Trace width/space	PCB	Min:2.0/2.0 mil	Min:3.0/3.0 mil
	iC substrate	Min:25/25 um	Min:40/40 um
Max. copper thickness		18 OZ	6 OZ
Hole diamete	Mechanical hole	Min:0.10mm	Min:0.15mm

r	Laser hole	Min:0.06mm	Min:0.10mm
	Half plated hole	Min:0.30mm	Min:0.40mm
Hole wall spacing of vias	Same network	Min:0.13mm	Min:0.2mm
	Different networks	Min:0.25mm	Min:0.30mm
Via to inner copper or wire	≤10L	Min:0.125mm	Min:0.15mm
	>10L	Min:0.15mm	Min:0.18mm
Aspect ratio		25:1	12：1
Soldermask bridge	Green color	Min:3.0 mil	Min:4.0 mil
	Other color	Min:4.5 mil	Min:5.0 mil
Resin plug hole diameter		0.1-0.6 mm	0.2-0.5 mm
Tolerance of impedance		±5%	±10%
Gold thickness	Immersion gold	MAX：5-8u"	MAX：3-8u"
	Platting Soft gold	MAX：60-120u"	MAX：1-3u"
	Platting Hard gold	MAX：40-80 u"	MAX：15-30 u"
Finsihing surface		HASL/HASL Lead free, OSP, Immersion silver, Immersion gold, Immersion Tin, ENEPIG, Platting gold, Platting Ni, Hard gold connector, Platting thick soft gold(bonding	
Special technology		Heavy copper blind & buried vias, Metal core, Rigid-flex, Embedded copper, high-frequency hybrid, long and short gold connector, back drill, depth control drill, via in pad, half hole, counter sink, step slot. Stack via, laser cut, epoxy fill, mix surface finish, embedded component, carbon ink.	

EMS Capabilities

Project			Conventional Technology	Unconventional Process	Remarks
SMT process	PCB	minimum size	L≥50mm W≥50mm	L＜50mm W＜50mm	The distance between BOT, TOP surface components and Mark points and the edge of the board shall be ≥ 3 mm; The size of unconventional PCB is within the scope of semi-automatic printing equipment, and the
		maximum size	L≤450mm W≤400mm	L：≤600mm W：≤450mm	
		Component thickness (t)	0.5mm≤T≤3mm	T＜0.5mm，T＞3mm	

					minimum accuracy is 0.5 Pitch.
	Device size	Minimum package	0201(0.6mm*0.3mm)	01005（0.3mm*0.2mm)	Height of double-sided process device ≤25mm.
		maximum size	SMD≤ 200mm*125mm	SMD＞ 200mm*125mm	
		Device thickness	T≤15mm	T＞15mm	
	QFP, SOP, SOJ and other polypods.	Minimum PIN spacing	0.35mm	0.3mm≤Pitch＜ 0.35mm	
	CSP、BGA	Minimum ball spacing	0.35mm	0.3mm≤Pitch＜ 0.35mm	
DIP process (wave soldering)	PCB size	minimum size	L≥50mm W≥ 50mm	L＜50mm	1. BOT surface element < 5 mm; 2. The distance between the pin of the plug-in component and the SMT part on the BOT surface > the thickness of the SMT part+2.0mm.
		maximum size	L≤500mm W≤ 400mm	L＜800mm W≤ 400mm	
		Thinnest size	0.5mm	T＜0.5mm	
		Thickest size	5mm	T＞5mm	
Three-proof paint technology	processing parameter	Temperature tolerance range	-30°C≤T≤ 120°C	-50°C≤T≤150°C	/
		Coating thickness	20um≤T≤ 50um	T＞50um	
Flying needle testing process	Device height	upside	H≤60mm	H＞60mm	/
		downside	H≤120mm	H＞120mm	
	PCB thickness	thickness	T≤5mm	T＞5mm	