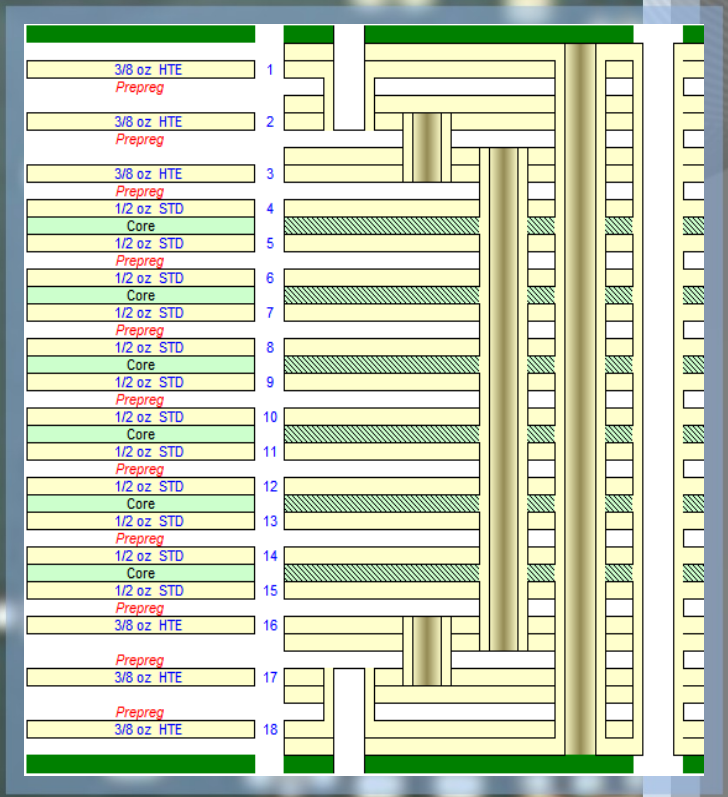

RP tec
GmbH
PCB technology

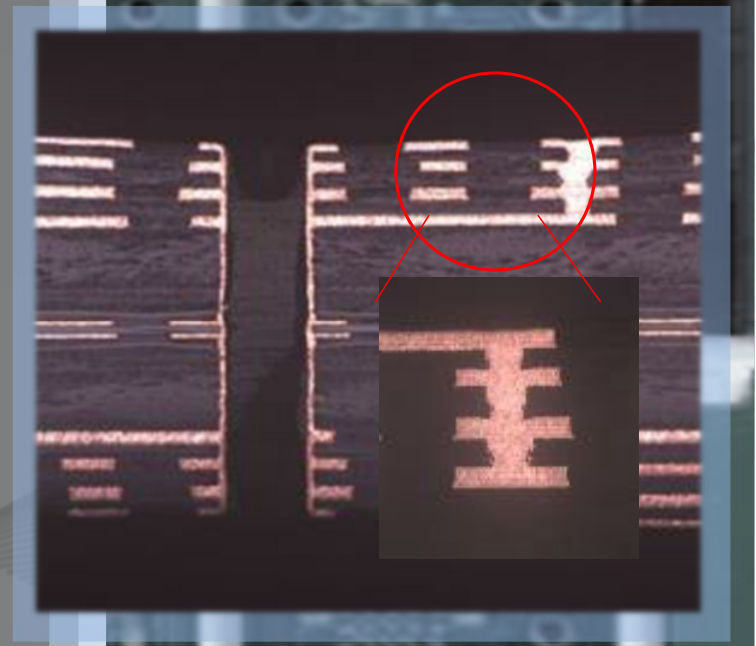


HDI PCB Capability

ITEMS	MASS	PROTO
BGA Pitch, Thin Board (0,45-0,80 mm)	0,30 mm	0,25 mm
BGA Pitch, Thick board (0,80-1,60 mm)	0,45 mm	0,40 mm
Trace/ Space, Tenting, Cu 15 µm	30/30 µm	30/30 µm
Trace/ Space, mSAP, Cu 15 µm	20/20 µm	20/20 µm
Micro Via/ Pad size, Core, Thickness, <65 µm	50/130 µm	50/120 µm
Micro Via/ Pad size, Core, Annular ring	40 µm	35 µm
Micro Via/ Pad size, Prepreg, Thickness <40 µm	70/150 µm	70/140 µm
Micro Via/ Pad size ,Prepreg, Annular ring	40 µm	35 µm
Stack-up, Max. Layer Count (Anylayer)	16L	18L
Stack-up, Multi	3core	3core
Stack-up, Min. Core Thickness	40 µm	30 µm
Stack-up, Min. Prepreg Thickness	20 µm (#1010)	20 µm (#1010)
Via drill and Cu Plating, Through Via	0,20 mm Ø	0,15 mm Ø
Via drill and Cu Plating, Through Via, Aspect ratio (0,45-0,80 mm)	4,00: 1	5,30 : 1
Via drill and Cu Plating, Through Via, Aspect ratio (0,80-1,60 mm)	6,40 : 1 (1,60 mm, 0,25 mm Ø)	8 : 1 (2,00 mm, 2,25 mm Ø)
Via drill and Cu Plating, Micro Via, Aspect ratio, Non Fill	1,00 : 1	1,00 : 1
Via drill and Cu Plating, Micro Via, Aspect ratio, Fill	0,90 : 1	0,90 : 1
PSR, SRR	+/- 15 µm	+/- 15 µm
PSR, Min. SRO size, Blue / Green	110 µm	100 µm
PSR, Min. SRO size, Black	170 µm	160 µm
PSR, Min. SR Dam Width, Blue / Green, Circle	20 µm	20 µm
PSR, Min. SR Dam Width, Blue / Green, Rectangular	60 µm	55 µm
PSR, Min. SR Dam Width, Black, Circle	20 µm	20 µm
PSR, Min. SR Dam Width, Black, Rectangular	70 µm	65 µm
Outer Dimension, Dimension Tolerance, Normal, Edge-Edge	+/- 80 µm	+/- 70 µm
Outer Dimension, Dimension Tolerance, Optical, Edge-Pad Center	+/- 50 µm	+/- 45 µm
Surface Finish, Single Finish	ENIG, ENEPIG, OSP, Hardgold	
Surface Finish, Hybrid Finish	ENIG+OSP, ENIG+OSP+Hardgold	

Regid Flex PCB Capability

ITEMS	MASS	PROTO
Layer Count, Rigid-Flex	14L	16L
Layer Count, Thickness	≤ 2.0 mm	≤ 2.2 mm
Fine Pattern (Line / Space), Inner Layer, Cu 12 μm	30/30 μm	30/30 μm
Fine Pattern (Line / Space), Inner Layer, Cu 18 μm	35/35 μm	35/35 μm
Fine Pattern (Line / Space), Out Layer, Cu 25 μm	50/50 μm	45/50 μm
Fine Pattern(Line / Space), Out Layer, Cu 35 μm	70/70 μm	60/60 μm
Via drill , Through Via, Min. PTH	0,10 mm (D/S)/0,12mm(RFB)	0,075 mm (D/S)/0,10mm(RFB)
Via drill , Through Via, Annular ring	70 μm	65 μm
Via drill , Through Via, Aspect ratio	4,50 : 1	5,00 : 1
Via drill , Through Via, MVH(Via/Land)	80/200 μm	80/200 μm
Via drill , Through Via, MVH A/R	0,90 : 1	1,00 : 1
PSR, Min. SRO size, Blue/Green	120 μm	120 μm
PSR, Min. SRO size, Black	150 μm	150 μm
PSR, Min. SR Dam Width, Blue/Green, Circle	35 μm	30 μm
PSR, Min. SR Dam Width, Blue/Green, Rectangular	60 μm	55 μm
PSR, Min. SR Dam Width, Black, Circle	65 μm	60 μm
PSR, Min. SR Dam Width, Black, Rectangular	80 μm	70 μm
Dimension and Registration, Dimension Tolerance	± 80 μm	± 70 μm
Dimension and Registration, Photo Solder Resist	± 40 μm	± 35 μm
Dimension and Registration, Coverlay	± 80 μm	± 75 μm
Dimension and Registration, Stiffener(SUS)	± 100 μm	± 80 μm
Impedance, Control	± 7%	± 5%
Flatness, DFSR	＜15 μm	＜12 μm
Flatness, LSR	＜18 μm	＜15 μm
Via Filling	Copper filling, plugging acc. IPC 4761 Typ VII	
Surface Finish, Only Finish	ENIG, ENEPIG, Electrolytic Soft Gold, Electrolytic Hard gold	
Surface Finish, Mixed Finish	Electrolytic Hard Gold and ENEPIG, ENIG and OSP, ENEPIG and ENIG	



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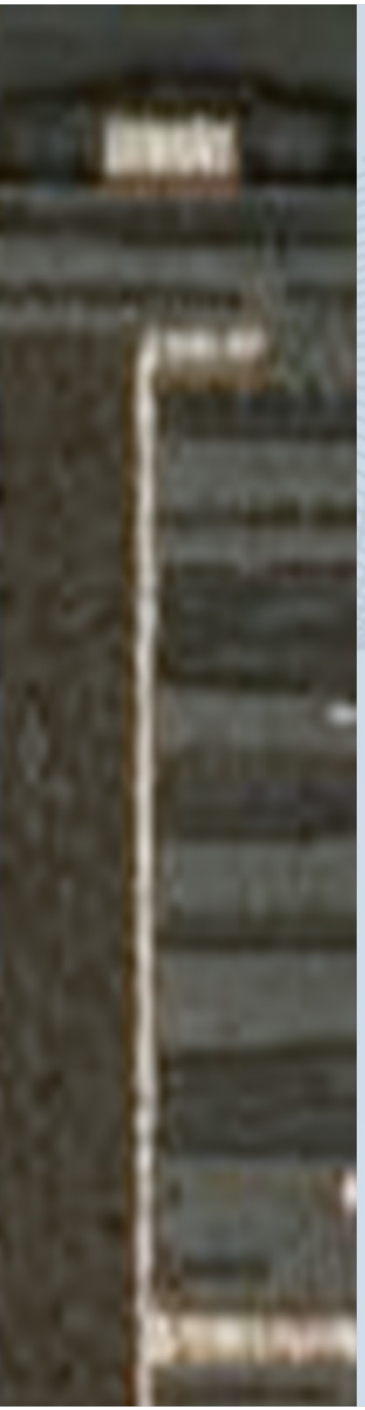
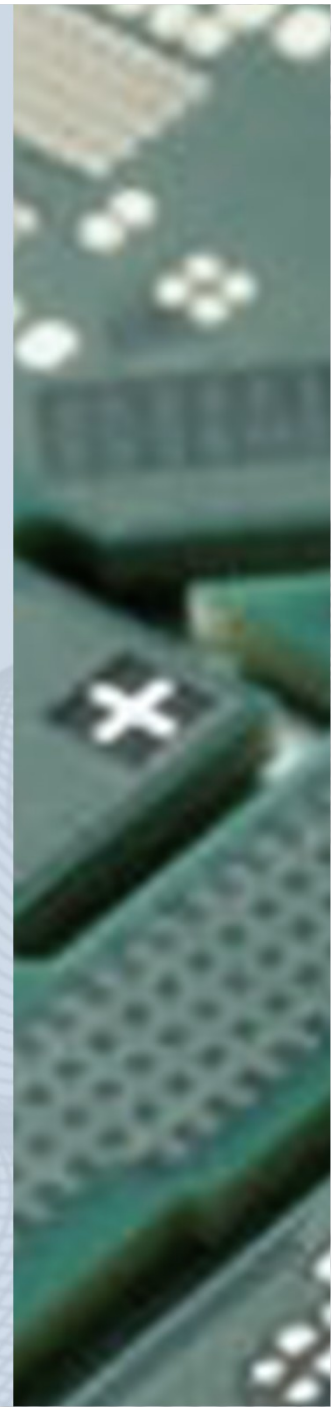
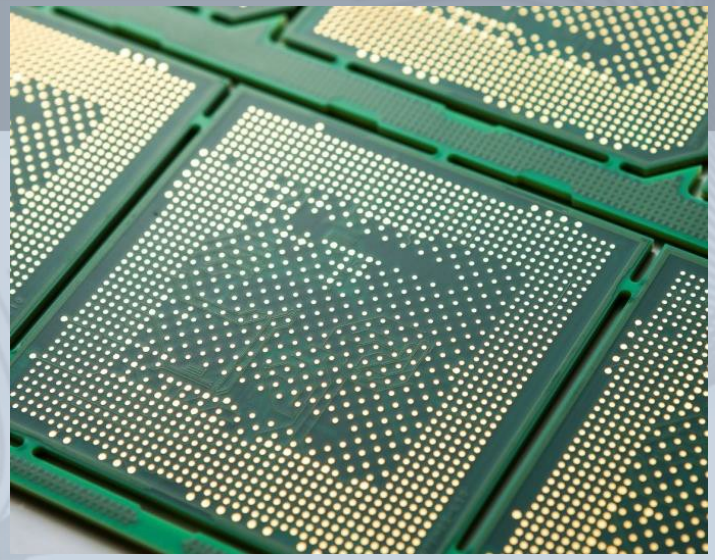


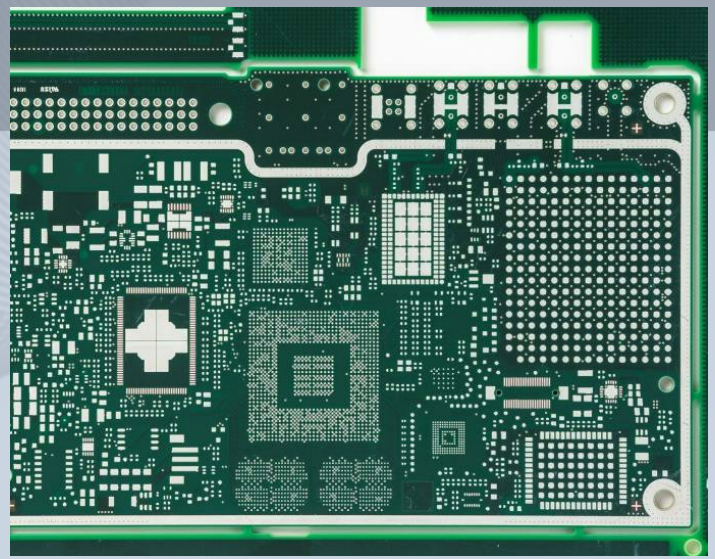
MLB PCB Capability

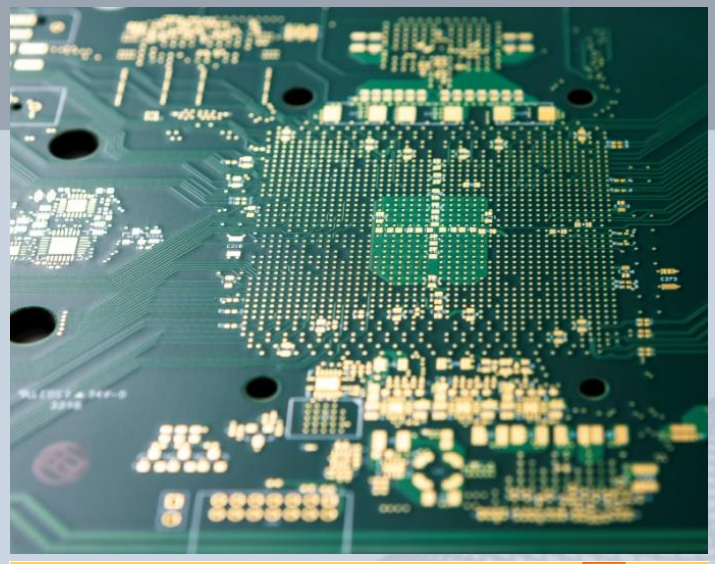
ITEMS	MASS	PROTO
Max. Layer Counts	50	50
Max. Board Thickness	6,35 mm	7,40 mm
Min. Core Thickness	0,05 mm	0,04 mm
Max. Board Size	520,00 mm x 700,00 mm	560,00 mm x 720,00 mm
Trace and Space, Inner	70/70 µm	50/50 µm
Trace and Space, Outer	120/120 µm	100/100 µm
Registration Budget	75 µm	65 µm
min. Drilled Via Size	0,15 mm	0,10 mm
Aspect Ratio	36:1	40:1
Copper Weights, Min Outer	18 µm	12 µm
Copper Weights, Min Inner	18 µm	12 µm
Copper Weights, Max Inner	35 µm	70 µm
Copper Weights, Max Outer	70 µm	105 µm
Drill to Copper, DUT Area	0,12 mm	0,10 mm
Drill to Copper, Other Area	0,20 mm	0,15 mm
Circuit (Plane) to PCB edge	0,50 mm	0,30 mm
Routing Tolerance	± 0,20 mm	± 0,10 mm
Solder Mask Dam	Min 0,125 mm	Min 0,10 mm
Laser Drilled Microvias	0,10 mm	0,08 mm
Mechanical Depth Drilled Vias	Yes	Yes
Back Drill	0,65 mm Pitch	0,40 mm Pitch
Back Drill Depth Tolerance	300 µm	200 µm
Stacked Microvias	1+1, 2+2	3+3, 4+4
Impedance Control, Inner and Outer	± 10% / ±10%	± 5-8% / ±10%
Surface Finish, E-less Nickel Immersion Gold	Ni 3-8 µm	
Surface Finish, Flash / Heavy	Au 0,03-0,07 µm/	Au 0,10-1,27 µm
Surface Finish, Electrolytic Nickel Hard Gold	Ni 3-15 µm / Au 0,10-1,50 µm	

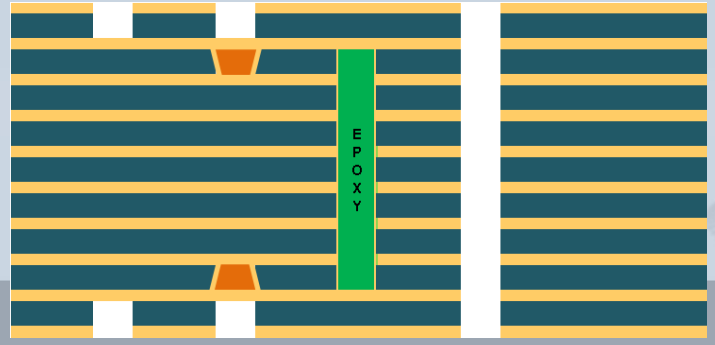


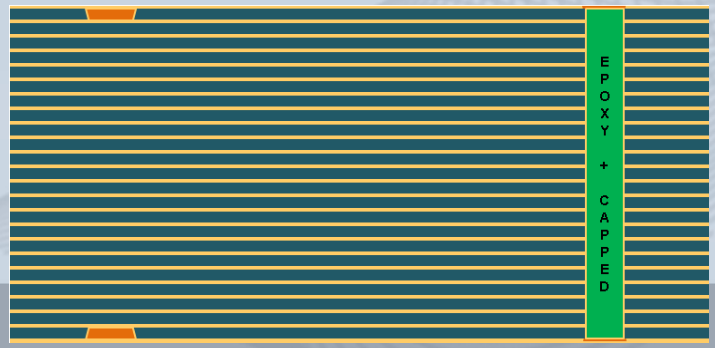
HDI PCB 1











Structure	1-2/2-3/3-4/7-8/8-9/9-10 (Cu fill) 4-7 (Epoxy fill)
Layer / Thickness	10L / 1,80 mm
Line / Space	50 µm / 60 µm
Others	Impedance

Structure	1-2/1-3/8-10/9-10/8-9/9-10 (C) 4-7 (Epoxy fill)
Layer / Thickness	10L / 1,80 mm
Line / Space	50 µm / 60 µm
Others	Impedance

Structure	1-2/23-24 (Cu fill) PTH_POV
Layer / Thickness	24L / 2,70 mm
Line / Space	50 µm / 50 µm
Others	Impedance, High TG 180 Material

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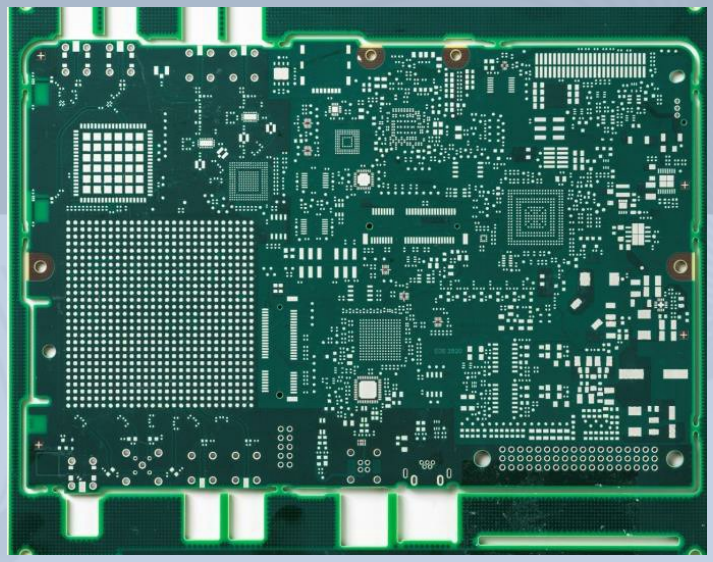
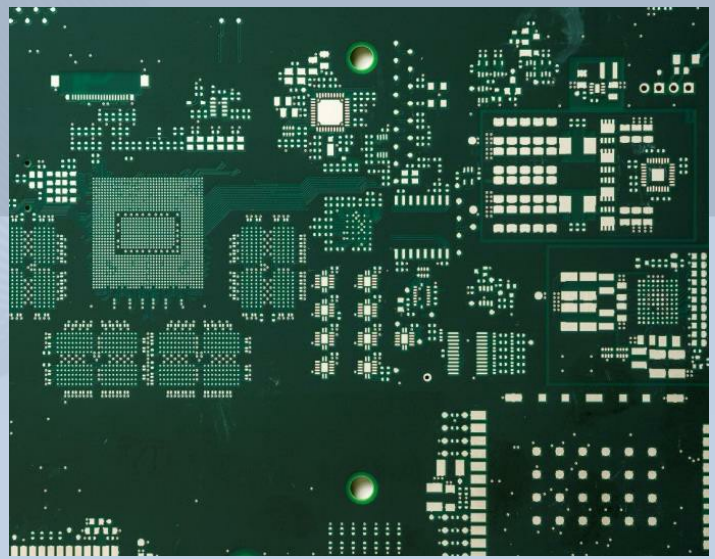
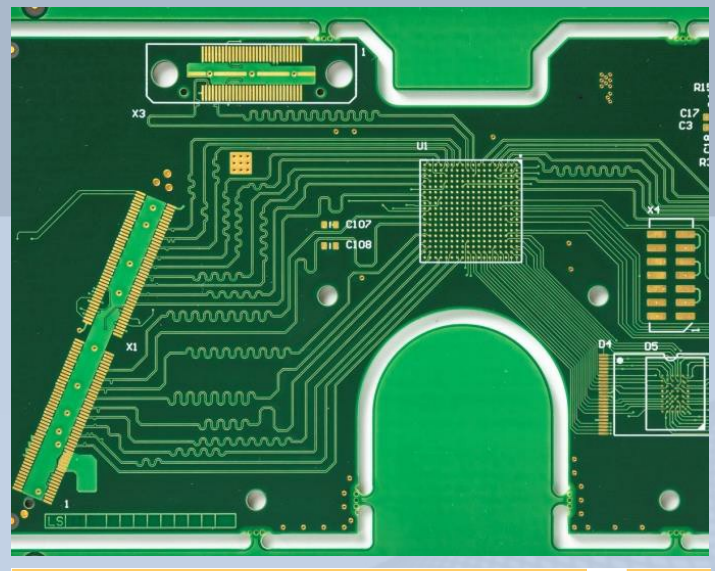
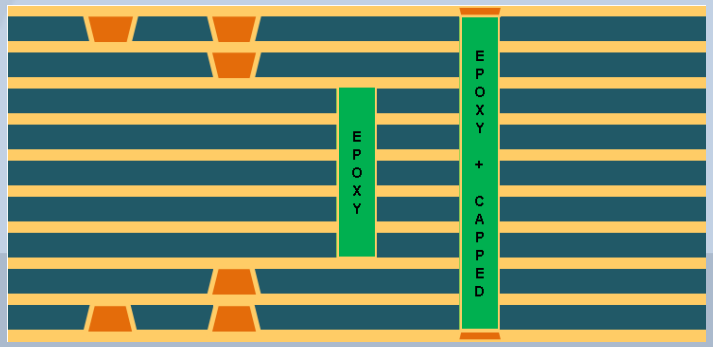
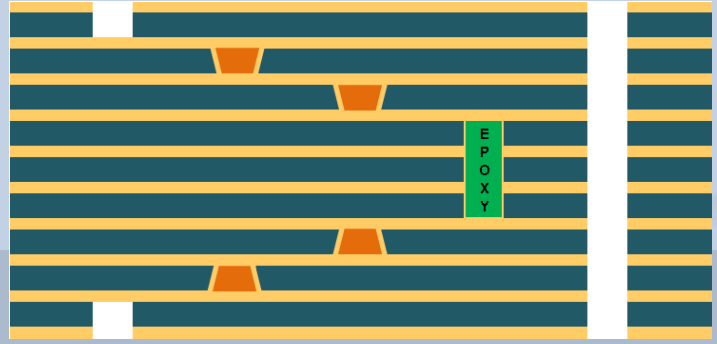
HDI PCB 2

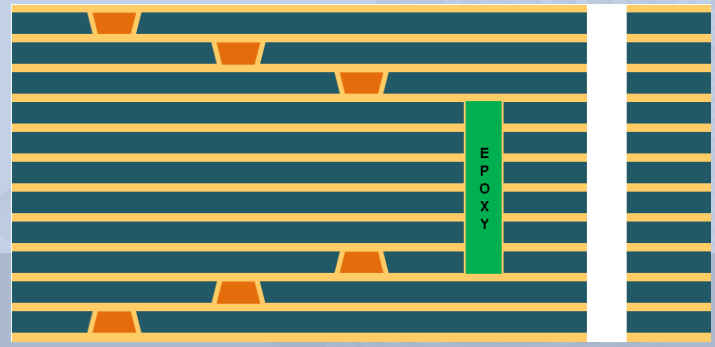












Structure	1-2/1-3/8-10/9-10 (Cu fill) 3-8, 1-10 (Epoxy fill)
Layer / Thickness	10L / 1,80 mm
Line / Space	80 µm / 70 µm
Others	Impedance

Structure	1-2/2-3/3-4/7-8/8-9/9-10 4-7 (Epoxy fill)
Layer / Thickness	10L / 1,60 mm
Line / Space	75 µm / 75 µm
Others	Staggered via

Structure	1-2/2-3/3-4/9-10/10-11/11-12 4-7 (Epoxy fill)
Layer / Thickness	12L / 1,60 mm
Line / Space	75 µm / 75 µm
Others	Impedance, High TG 180 Material

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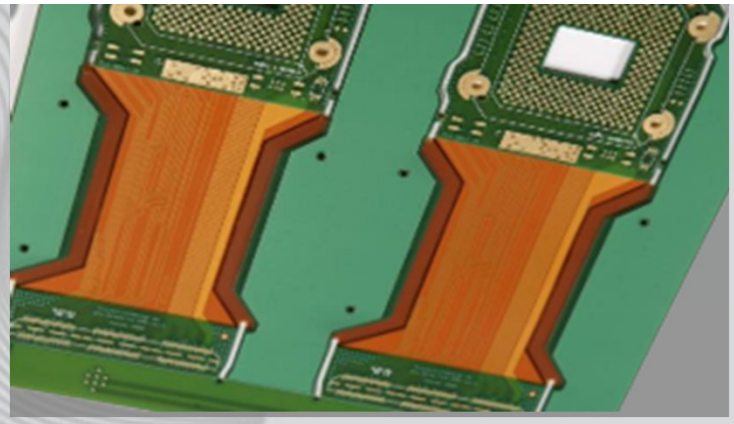
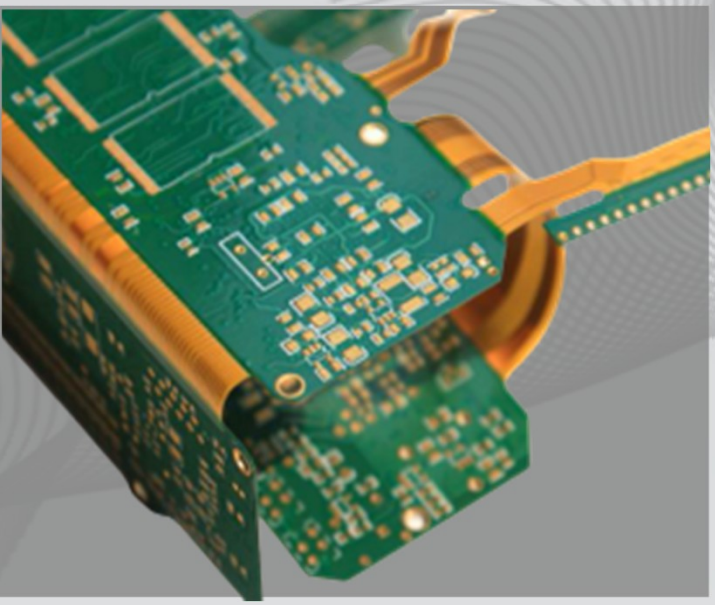
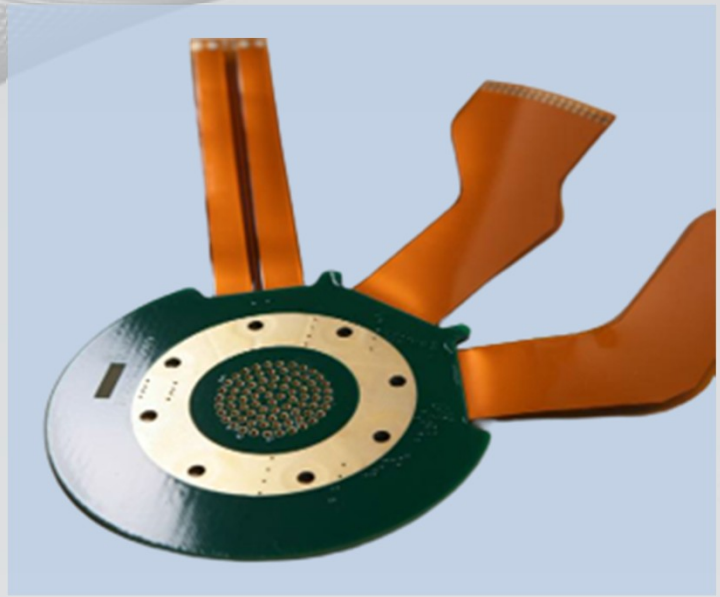
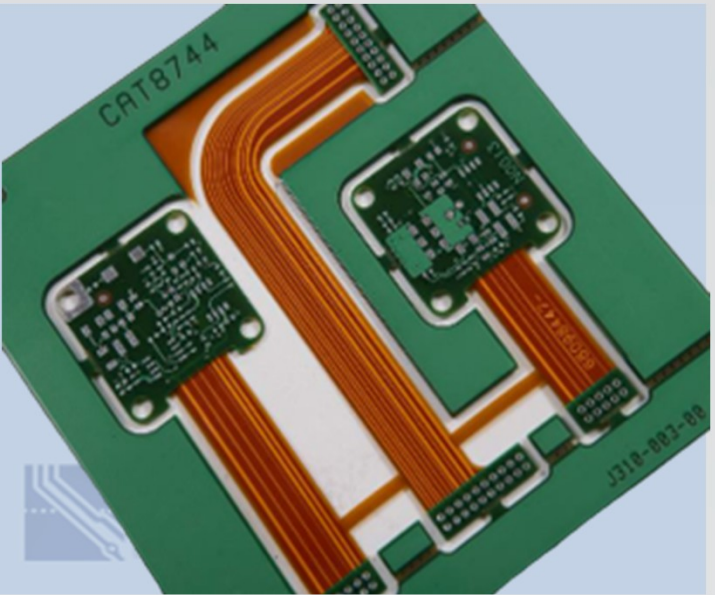
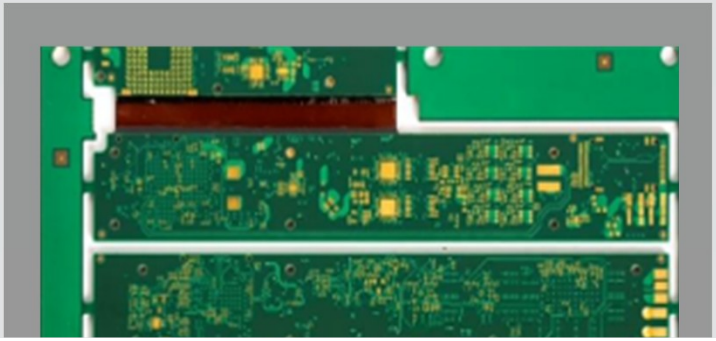






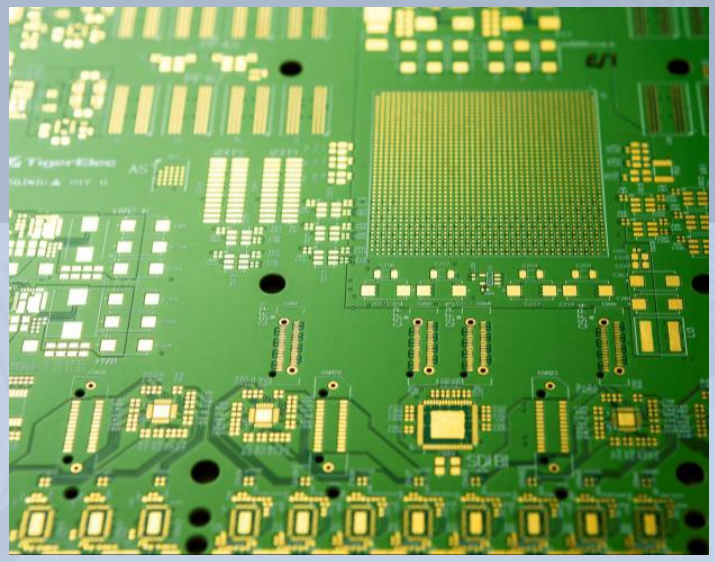


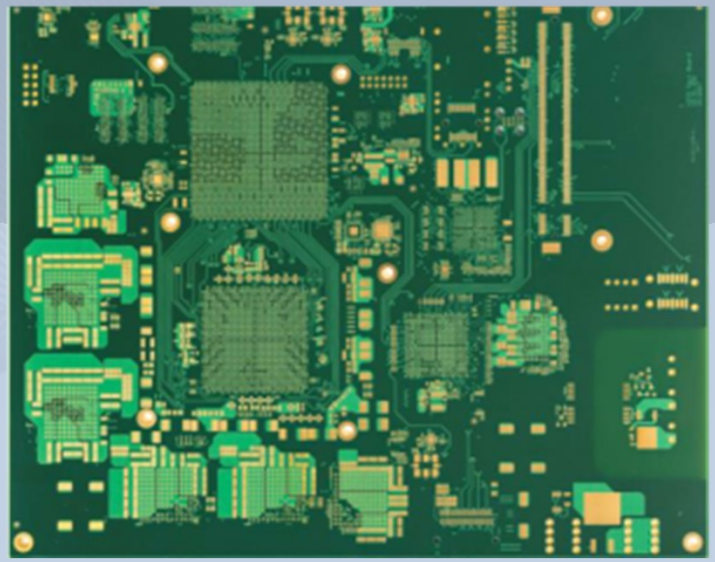


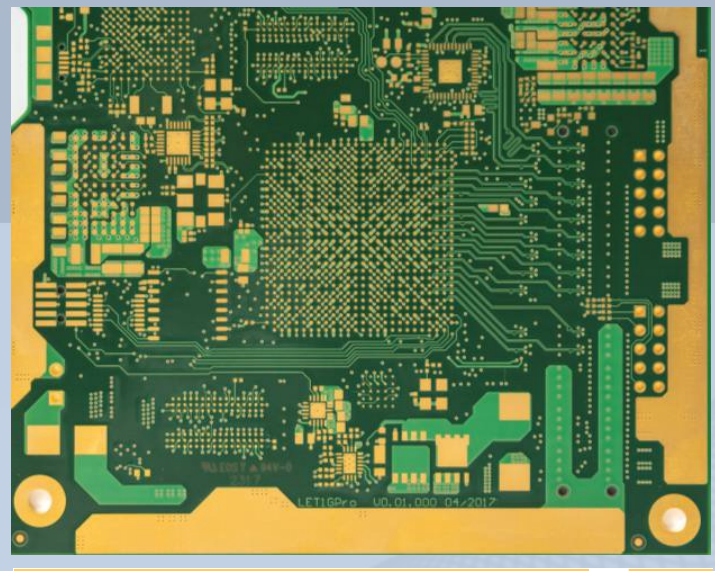
Rigid Flex PCB

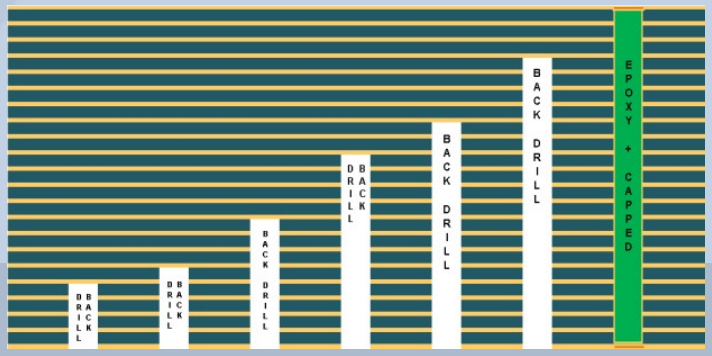
Structure	1-2/13-14 (Cu fill), PTH_POV 6-9L Flex part
Layer / Thickness	14L / 2,00 mm
Line / Space	100 μm / 100 μm
Others	Nelco4000-13SI + Dupont Impedance

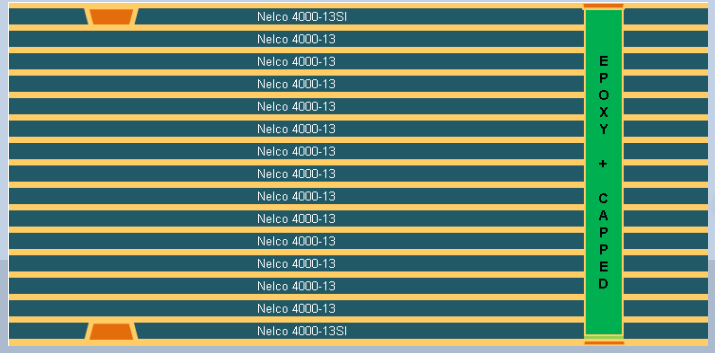
Special PCB











Structure	Material : Megtron 6 Back drill
Layer / Thickness	22L / 2,22 mm
Line / Space	90 µm / 75 µm
Others	Press fit holes, PTH_POV

Structure	Material: Nelco4000-13SI +Nelco4000-13
Layer / Thickness	16L / 1,80 mm
Line / Space	100 µm / 100 µm
Others	Impedance, 1-2/15-16 (Cu fill)

Structure	Material: Nelco4000-13SI +Isola 370 HR
Layer / Thickness	12L / 1,60 mm
Line / Space	75 µm / 75 µm
Others	Impedance, 1-2/11-12 (Cu fill)

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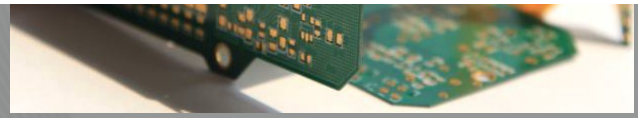
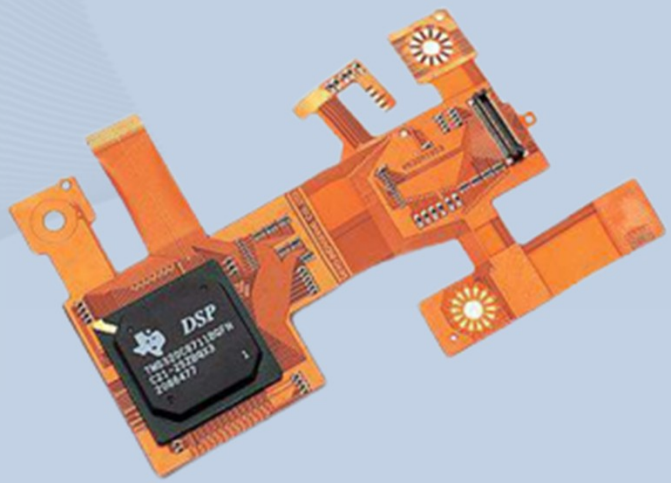
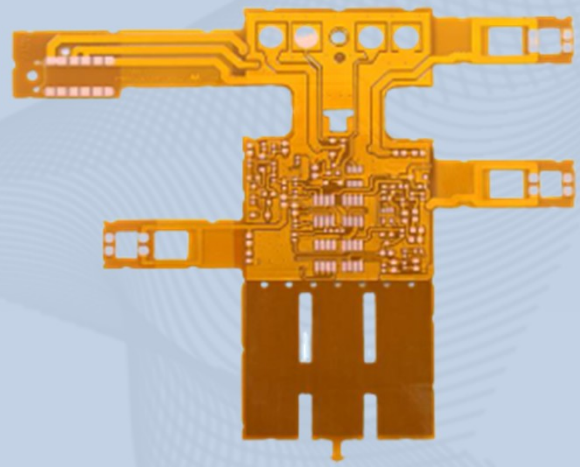
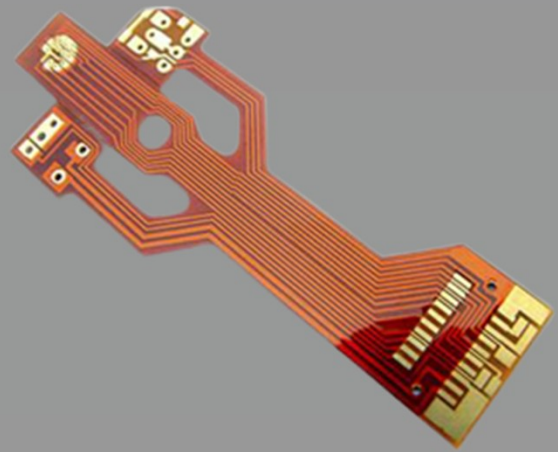
Flexible PCB

- COF and Flip chip scales
- SMD Assembly Possible!
- Layers up to 12L
- Cu Thickness (RA/ED): 9 µm - 70 µm
- Dimension: 500,00 mm x 700,00 mm
  Roll-to-Roll
- Min. Track and Gap: 25 µm / 25µm
- Min. pattern to via clearance : 50 µm
- Edge to pattern clearance : 100 µm









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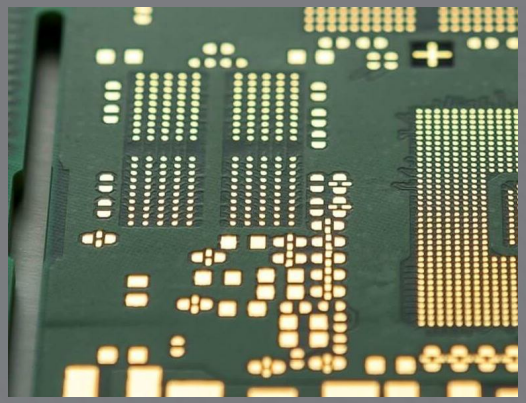
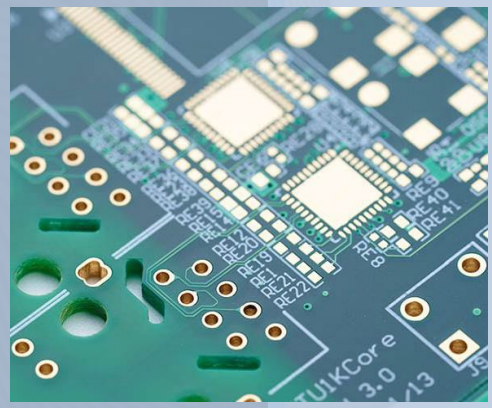
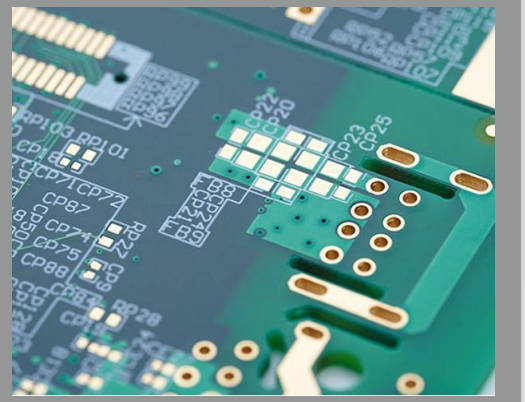
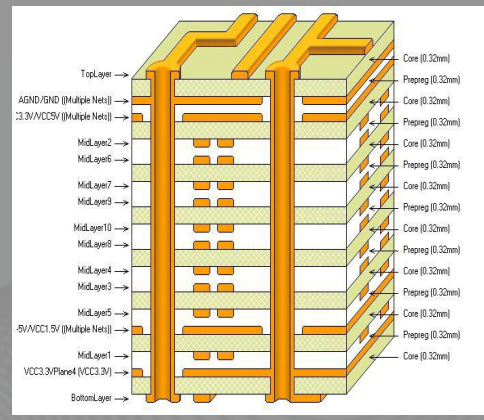


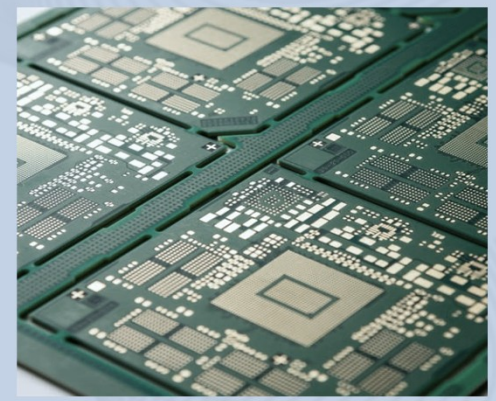




MLB PCB

- Layer : - 50
- Thickness : 6,20 mm
- Material : FR-4(H) and more
- Size : 550,00 mm x 750,00 mm
- Via on pad / BVH (Blind and Buried)
- MLB and individual Build-up





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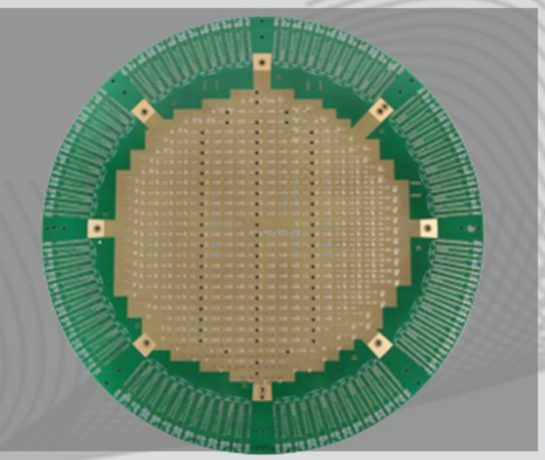
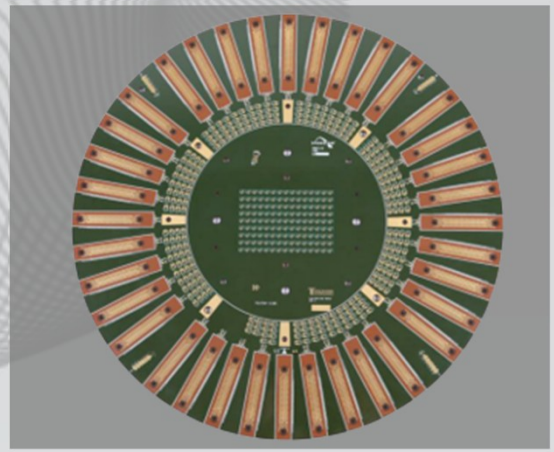
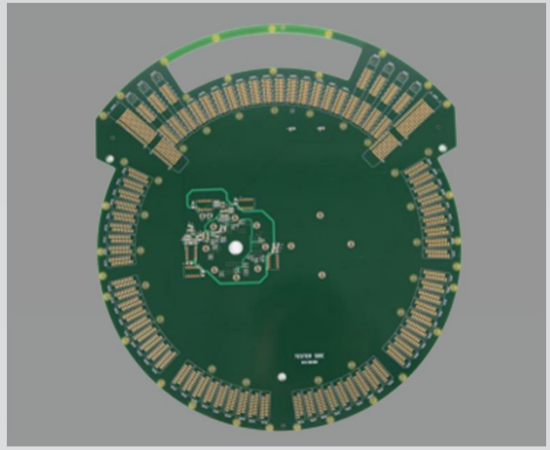
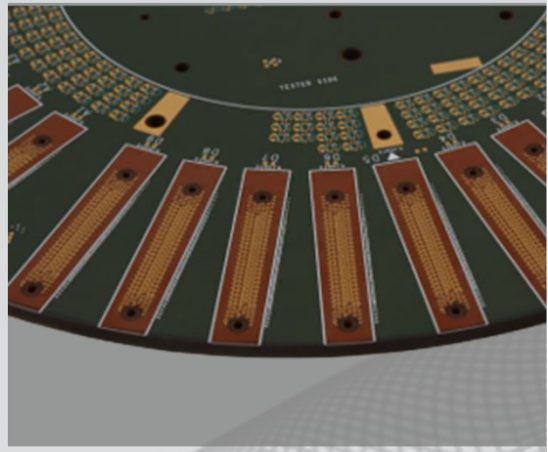
Probe Card PCB









Probe Card- Memory

- Layer : -122
- Thickness : 7,40 mm
- Material : FR-4 or Megtorn4 and 6 or EMC
- Size : 440,00 mm, 480,00 mm or 520,00 mm
- Via-in-pad (HPL) and Blind-via-hole (BVH)
- Back Drill

Probe Card- Non Memory

- Layer : - 90
- Thickness : 6,30 mm
- Material : FR-4 or Megtron 4 and 6
- Size : 350,00 mm
- Via-in-pad (HPL) and Blind-via-hole (BVH)
- Back Drill

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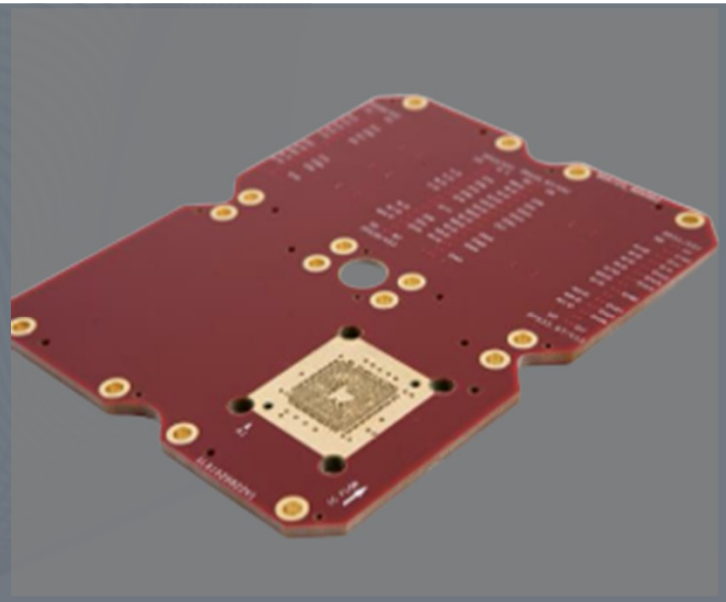
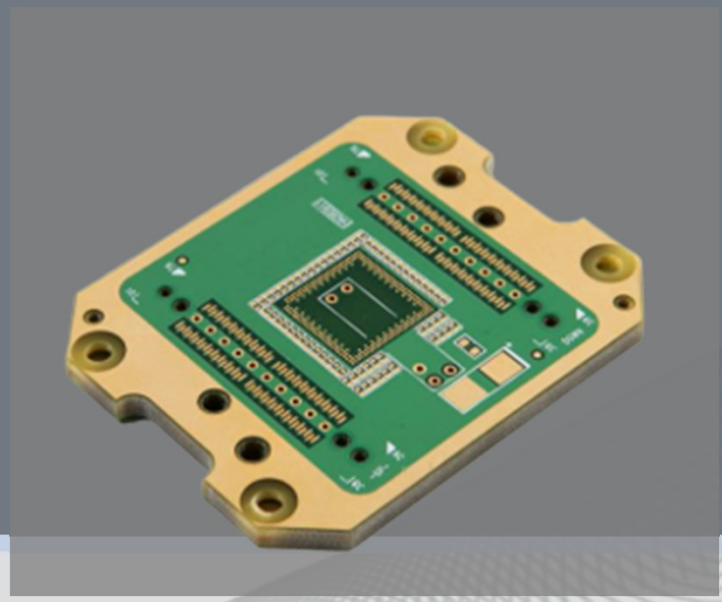
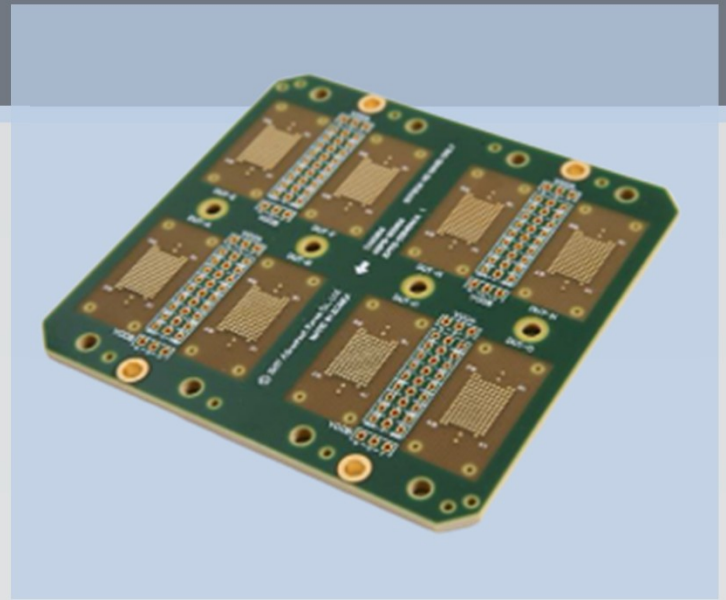
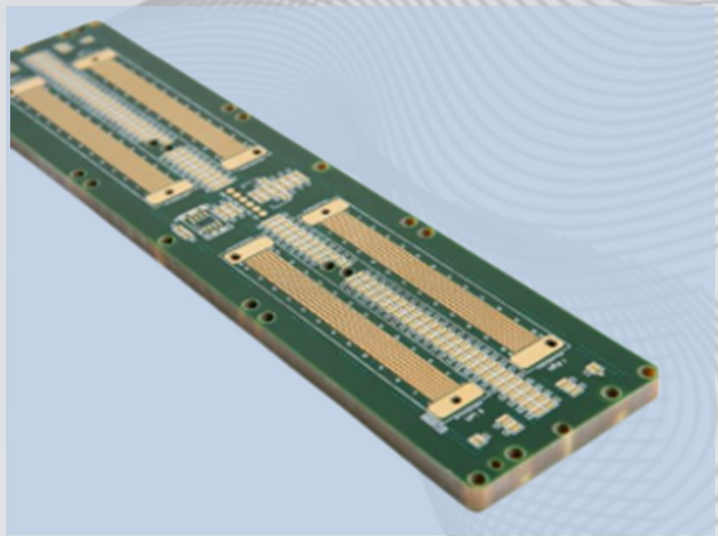
Socket PCB

- Layer : - 62
- Thickness : 6,35 mm
- Material: FR-4, Megtron6 or I-Tera
- HP(Hole plugging) and Back Drill
- Via-in-pad (HPL) and Blind-via-hole (BVH)









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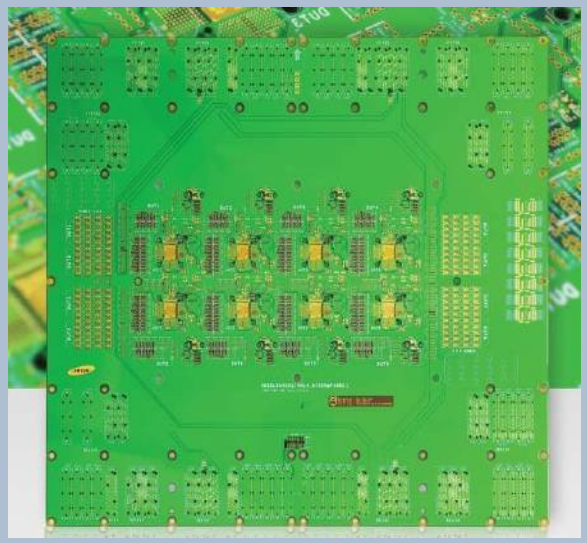
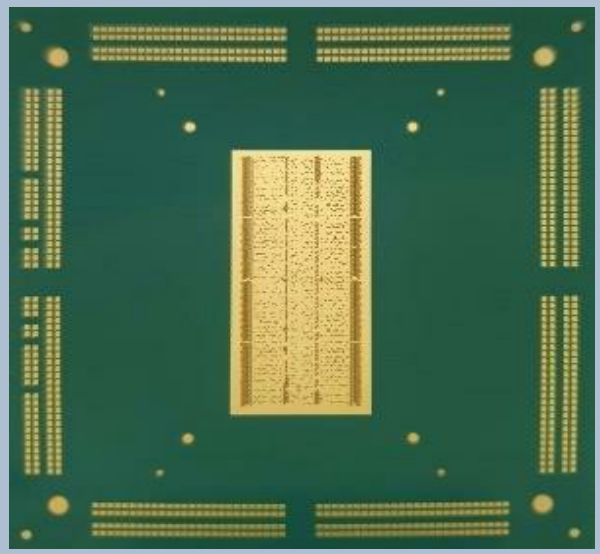


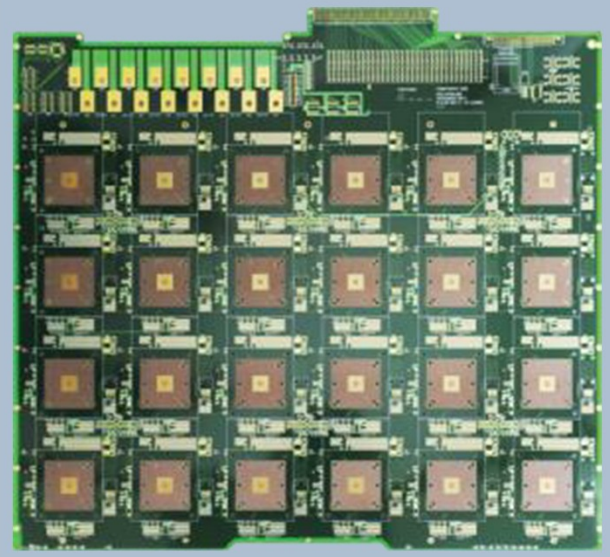
Load PCB

- Layer: - 74
- Thickness: 7,40 mm
- Material: FR-4, Megtron6 or I-Tera
- Size: 680,00 mm x 520,00 mm
- 0,4 mm Pitch, BVH, HPL and -16 Dut
- Back Drill

Burn-In PCB

- Layer: - 30
- Thickness: 3,80 mm
- Material: FR-4(H) or Polymide
- Size: 570,00 mm x 610,00 mm
- Via-in-pad (HPL) and Blind-via-hole (BVH)





MLO PCB

- Layer: - 16 (Build-up 6th)
- Thickness: 3,00 mm
- Material: BT resin material
- Size: 64,00 mm x 64,00 mm
- Process: SAP and mSAP

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Many thanks!

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PCB technology

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