

RP tec

GmbH

PCB technology

HDI PCB Capability

ITEMS

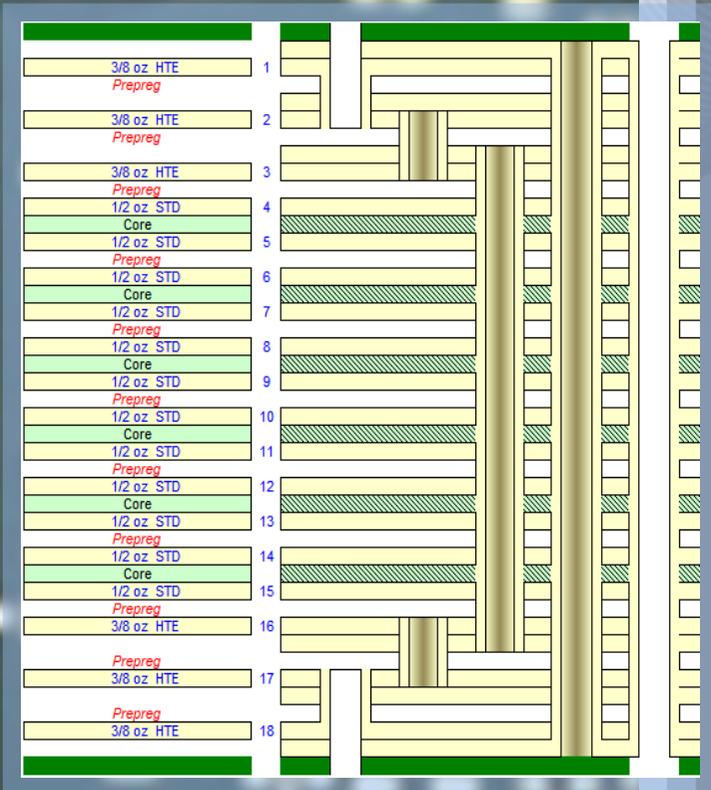
- BGA Pitch, Thin Board (0,45-0,80 mm)
- BGA Pitch, Thick board (0,80-1,60 mm)
- Trace/ Space, Tenting, Cu 15 µm
- Trace/ Space, mSAP, Cu 15 µm
- Micro Via/ Pad size, Core, Thickness, <65 µm
- Micro Via/ Pad size, Core, Annular ring
- Micro Via/ Pad size, Prepreg, Thickness <40 µm
- Micro Via/ Pad size, Prepreg, Annular ring
- Stack-up, Max. Layer Count (Anylayer)
- Stack-up, Multi
- Stack-up, Min. Core Thickness
- Stack-up, Min. Prepreg Thickness
- Via drill and Cu Plating, Through Via
- Via drill and Cu Plating, Through Via, Aspect ratio (0,45-0,80 mm)
- Via drill and Cu Plating, Through Via, Aspect ratio (0,80-1,60 mm)
- Via drill and Cu Plating, Micro Via, Aspect ratio, Non Fill
- Via drill and Cu Plating, Micro Via, Aspect ratio, Fill
- PSR, SRR
- PSR, Min. SRO size, Blue / Green
- PSR, Min. SRO size, Black
- PSR, Min. SR Dam Width, Blue / Green, Circle
- PSR, Min. SR Dam Width, Blue / Green, Rectangular
- PSR, Min. SR Dam Width, Black, Circle
- PSR, Min. SR Dam Width, Black, Rectangular
- Outer Dimension, Dimension Tolerance, Normal, Edge-Edge
- Outer Dimension, Dimension Tolerance, Optical, Edge-Pad Center
- Surface Finish, Single Finish
- Surface Finish, Hybrid Finish

MASS

- 0,30 mm
- 0,45 mm
- 30/30 µm
- 20/20 µm
- 50/130 µm
- 40 µm
- 70/150 µm
- 40 µm
- 16L
- 3core
- 40 µm
- 20 µm (#1010)
- 0,20 mm Ø
- 4,00 : 1
- 6,40 : 1 (1,60 mm, 0,25 mm Ø)
- 1,00 : 1
- 0,90 : 1
- +/- 15 µm
- 110 µm
- 170 µm
- 20 µm
- 60 µm
- 20 µm
- 70 µm
- +/- 80 µm
- +/- 50 µm
- ENIG, ENEPIG, OSP, Hardgold
- ENIG+OSP, ENIG+OSP+Hardgold

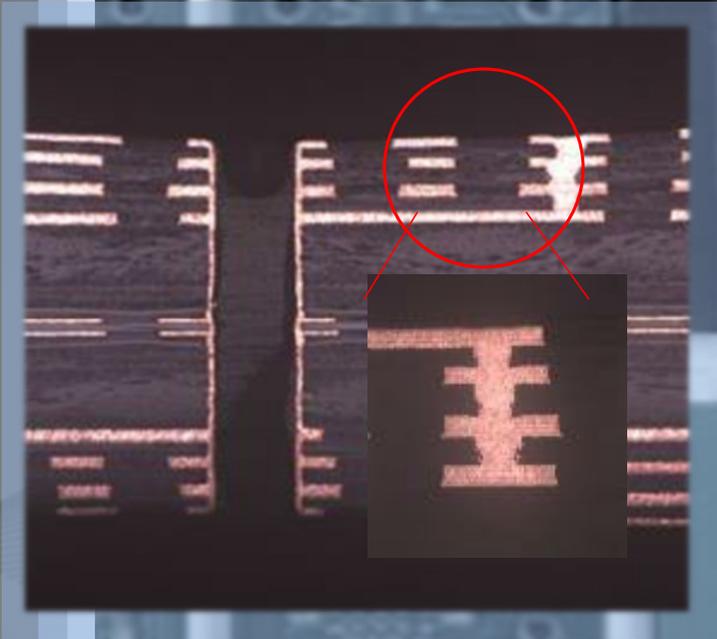
PROTO

- 0,25 mm
- 0,40 mm
- 30/30 µm
- 20/20 µm
- 50/120 µm
- 35 µm
- 70/140 µm
- 35 µm
- 18L
- 3core
- 30 µm
- 20 µm (#1010)
- 0,15 mm Ø
- 5,30 : 1
- 8 : 1 (2,00 mm, 2,25 mm Ø)
- 1,00 : 1
- 0,90 : 1
- +/- 15 µm
- 100 µm
- 160 µm
- 20 µm
- 55 µm
- 20 µm
- 65 µm
- +/- 70 µm
- +/- 45 µm
- ENIG, ENEPIG, OSP, Hardgold
- ENIG+OSP, ENIG+OSP+Hardgold



Regid Flex PCB Capability

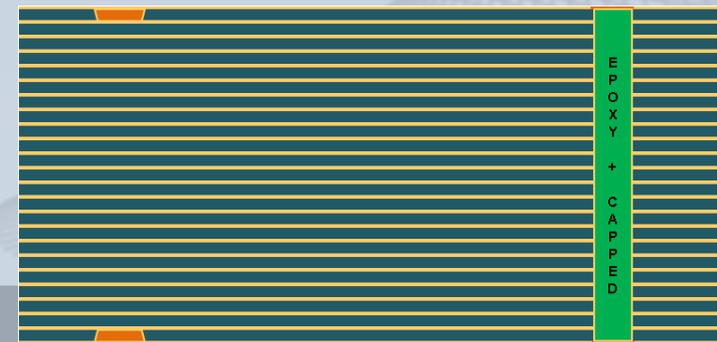
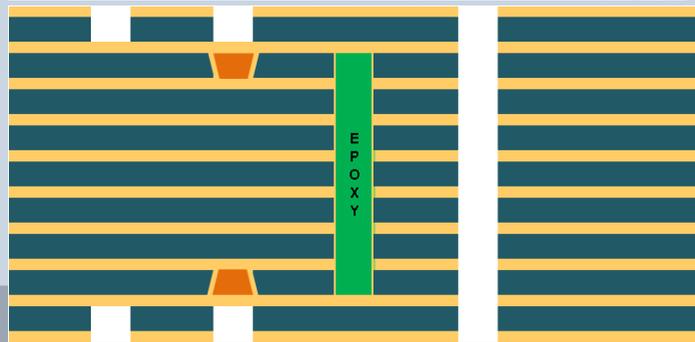
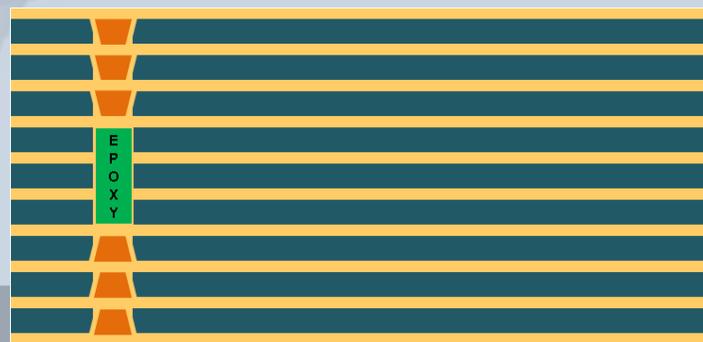
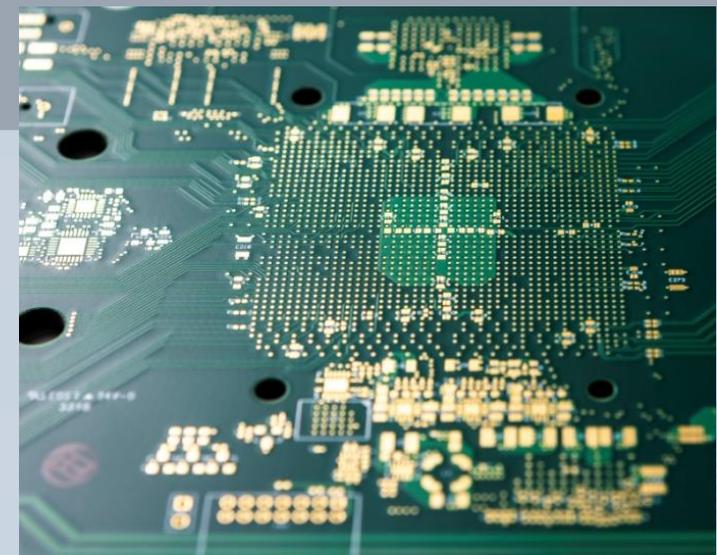
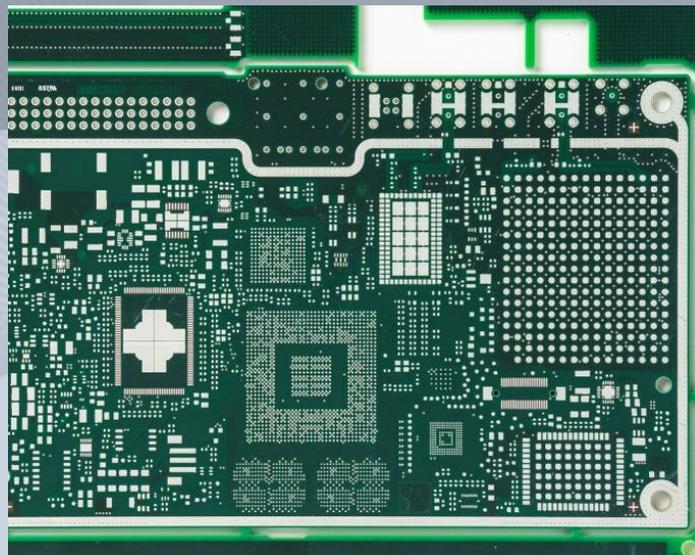
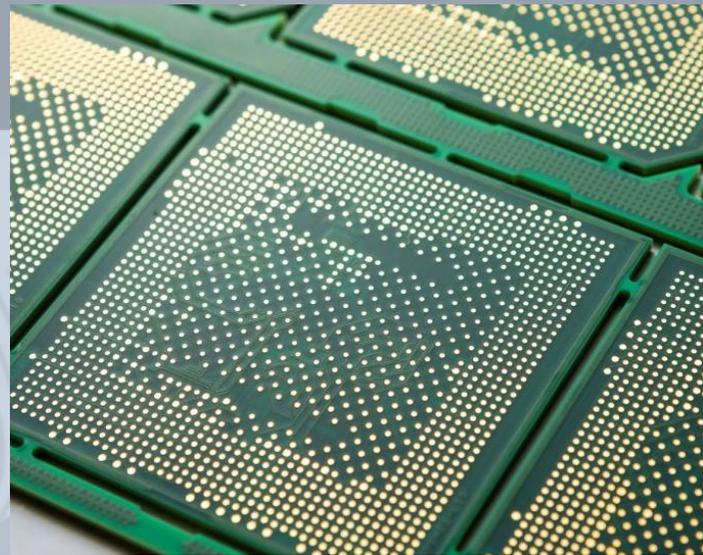
ITEMS	MASS	PROTO
Layer Count, Rigid-Flex	14L	16L
Layer Count, Thickness	≤ 2.0 mm	≤ 2.2 mm
Fine Pattern (Line / Space), Inner Layer, Cu 12 μm	30/30 μm	30/30 μm
Fine Pattern (Line / Space), Inner Layer, Cu 18 μm	35/35 μm	35/35 μm
Fine Pattern (Line / Space), Out Layer, Cu 25 μm	50/50 μm	45/50 μm
Fine Pattern (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, DFRS	< 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	



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 μ m	50/50 μ m
Trace and Space, Outer	120/120 μ m	100/100 μ m
Registration Budget	75 μ m	65 μ m
min. Drilled Via Size	0,15 mm	0,10 mm
Aspect Ratio	36:1	40:1
Copper Weights, Min Outer	18 μ m	12 μ m
Copper Weights, Min Inner	18 μ m	12 μ m
Copper Weights, Max Inner	35 μ m	70 μ m
Copper Weights, Max Outer	70 μ m	105 μ m
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	\pm 0,20 mm	\pm 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 μ m	200 μ m
Stacked Microvias	1+1, 2+2	3+3, 4+4
Impedance Control, Inner and Outer	\pm 10% / \pm 10%	\pm 5-8% / \pm 10%
Surface Finish, E-less Nickel Immersion Gold		Ni 3-8 μ m
Surface Finish, Flash / Heavy	Au 0,03-0,07 μ m/	Au 0,10-1,27 μ m
Surface Finish, Electrolytic Nickel Hard Gold	Ni 3-15 μ m / Au 0,10-1,50 μ m	

HDI PCB 1

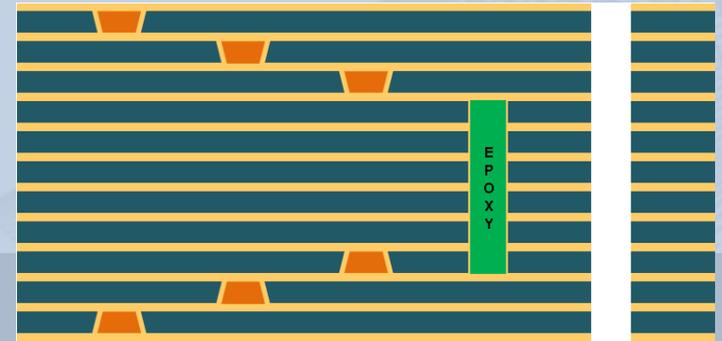
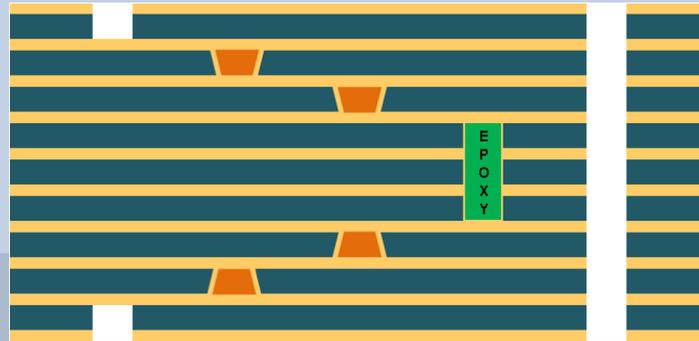
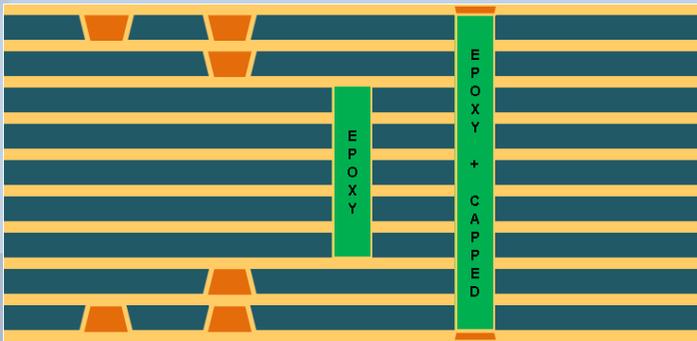
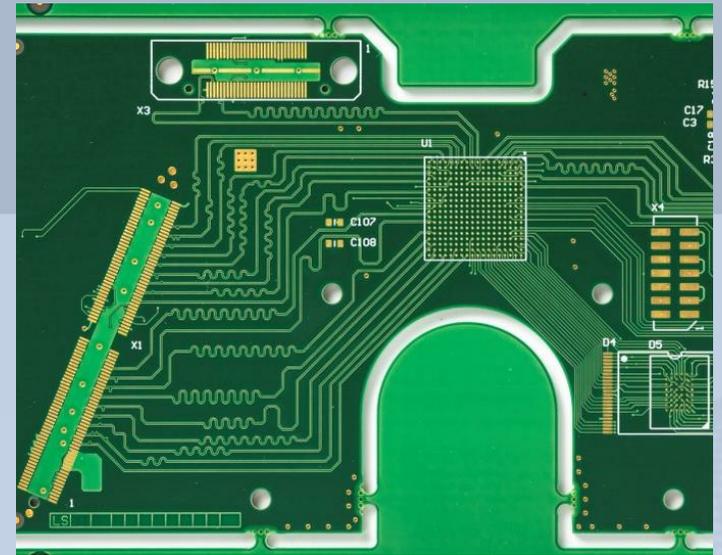
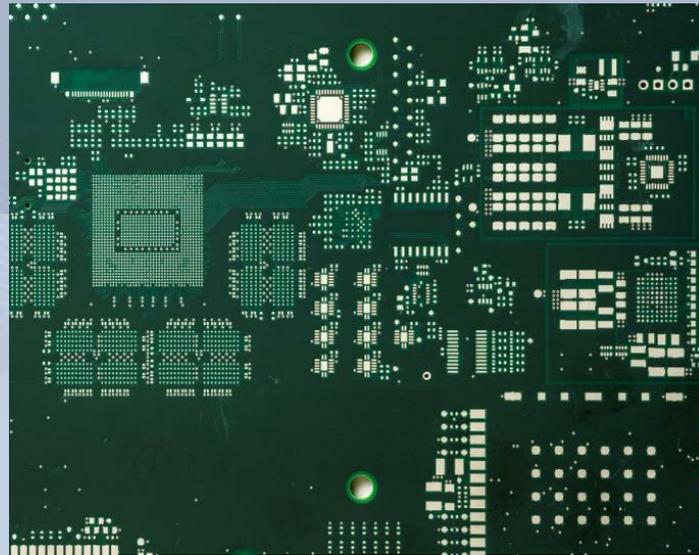
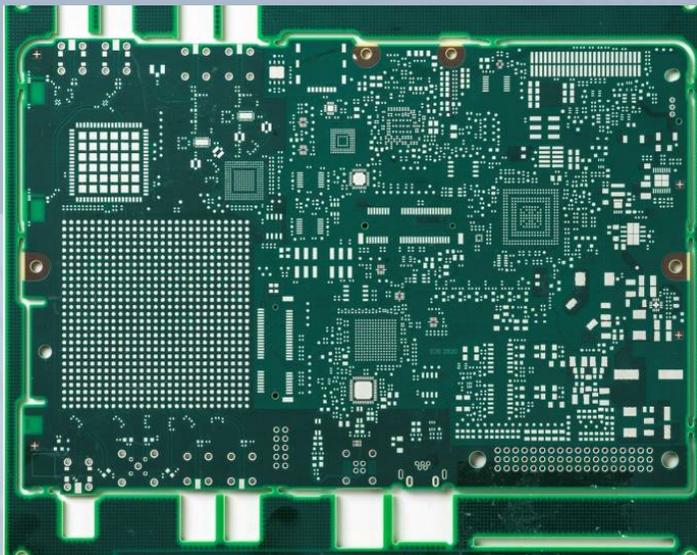


Structure	1-2/2-3/3-4/7-8/8-9/9-10 (Cu fill) 4-7 (Epoxy fill)
Layer / Thickness	10L / 1,80 mm
Line / Space	50 µm / 60 µm
Others	Impedance

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

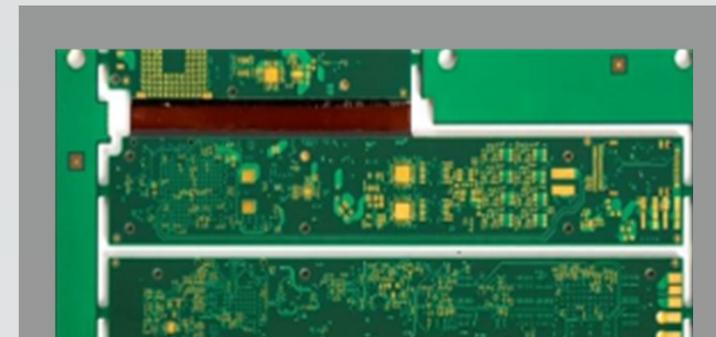
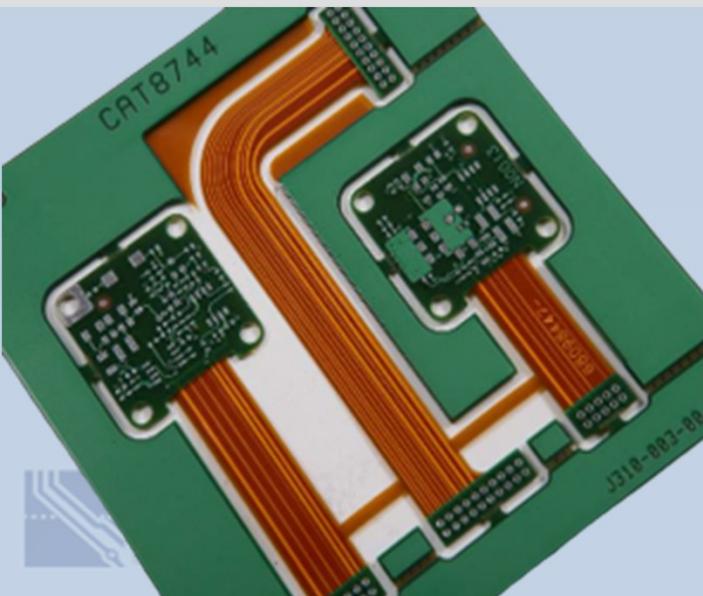
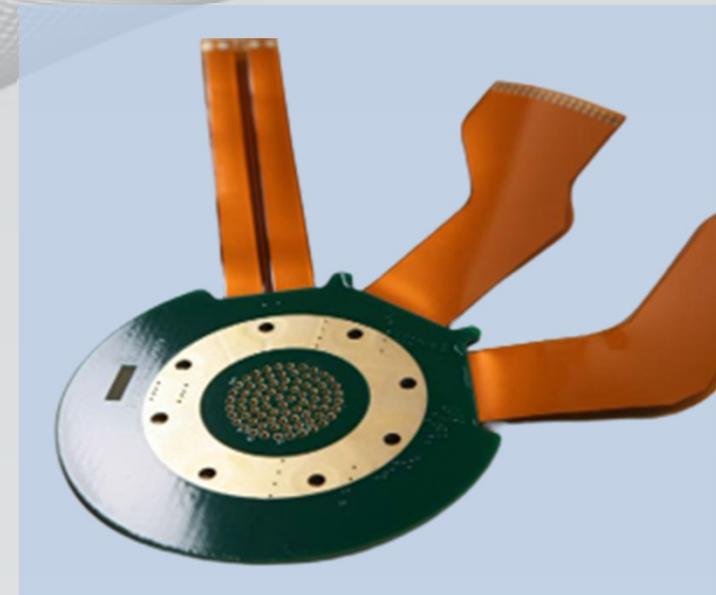
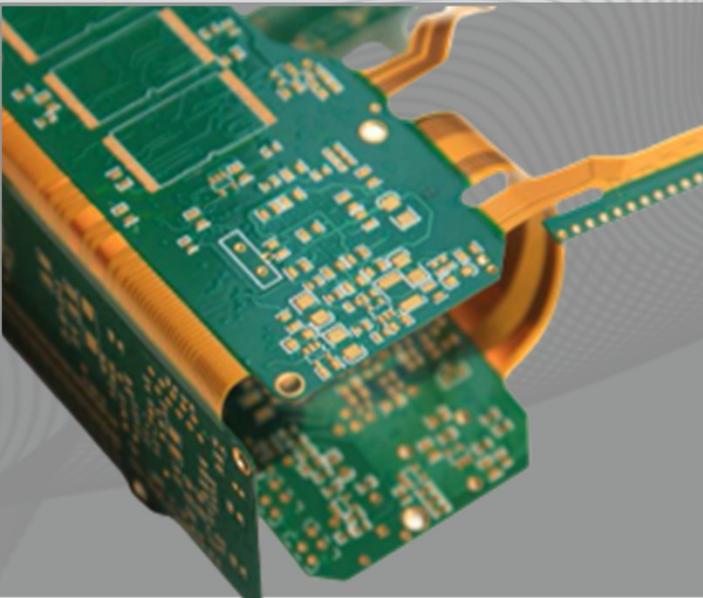
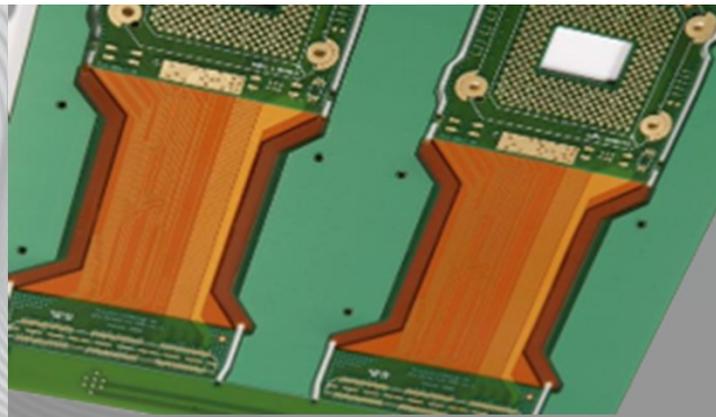
HDI PCB 2



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 μ m / 70 μ m
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 μ m / 75 μ m
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 μ m / 75 μ m
Others	Impedance, High TG 180 Material

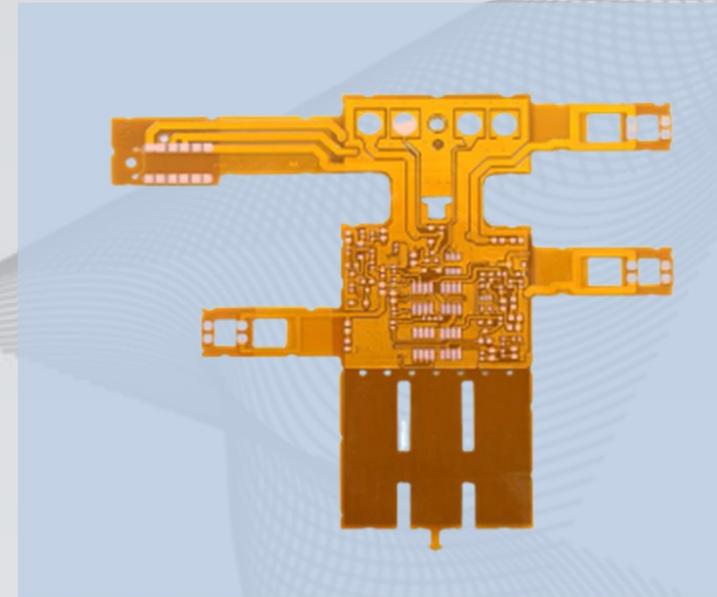
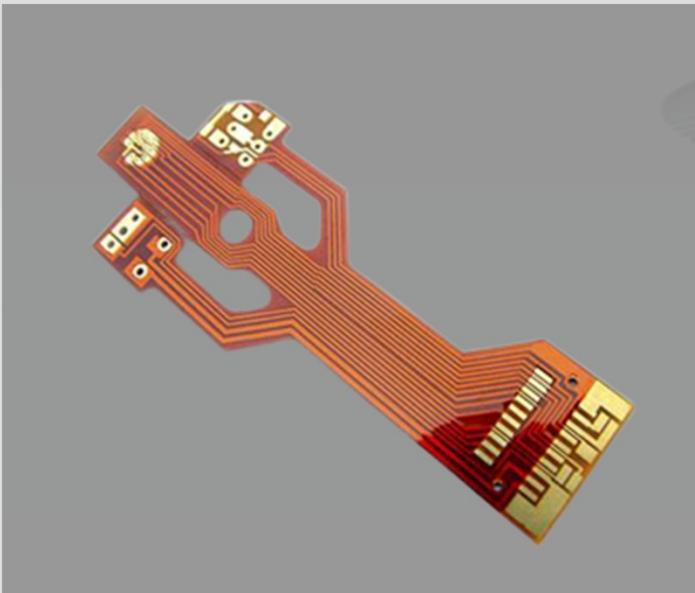
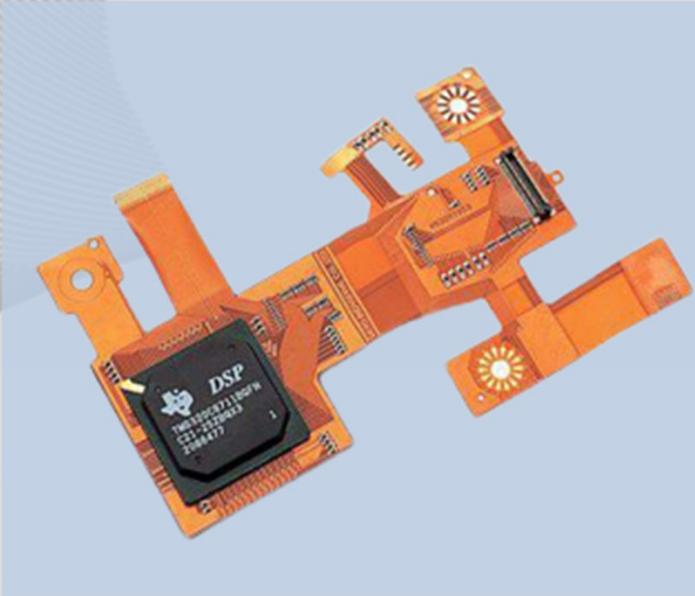
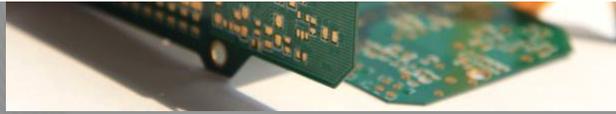


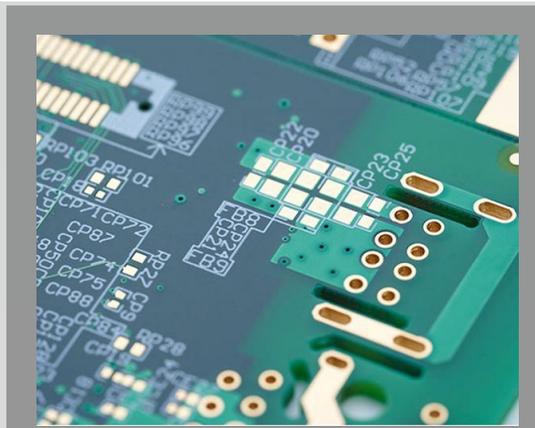
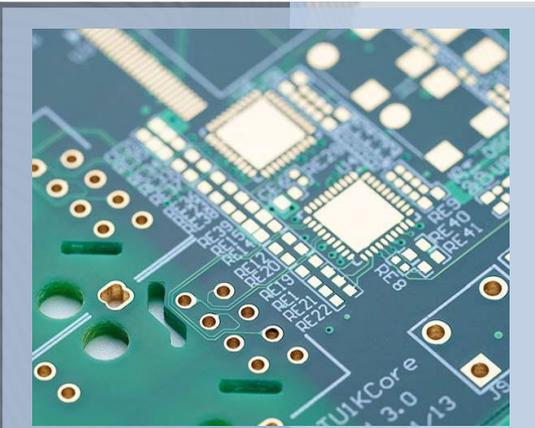
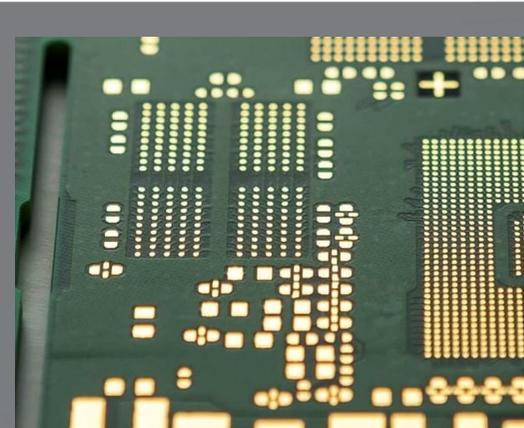
Rigid Flex PCB

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

Flexible PCB

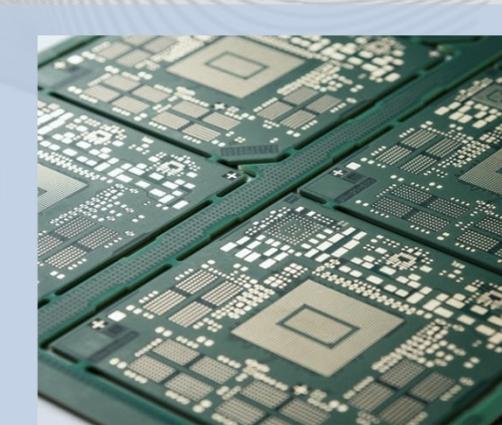
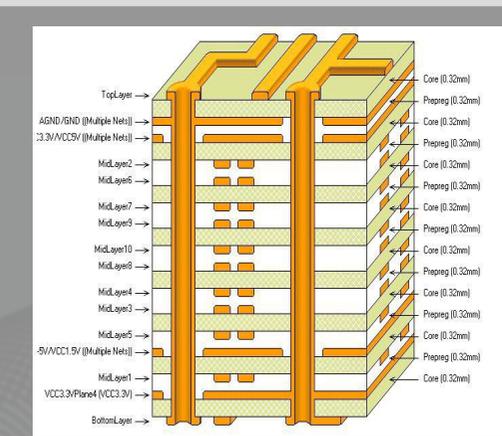
- COF and Flip chip scales
- SMD Assembly Possible!
- Layers up to 12L
- Cu Thickness (RA/ED): 9 μm - 70 μm
- Dimension: 500,00 mm x 700,00 mm
Roll-to-Roll
- Min. Track and Gap: 25 μm / 25 μm
- Min. pattern to via clearance : 50 μm
- Edge to pattern clearance : 100 μm



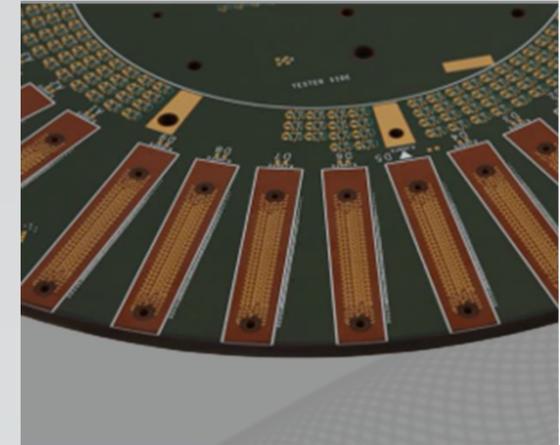
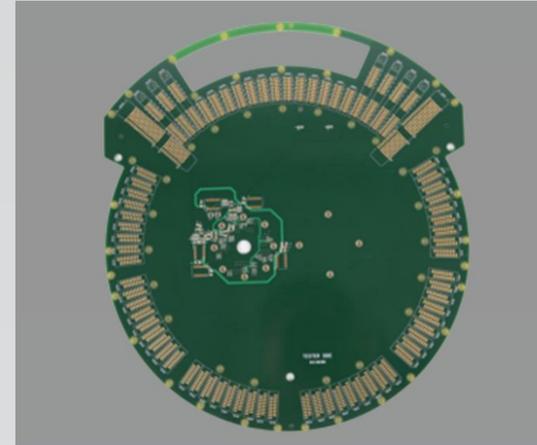
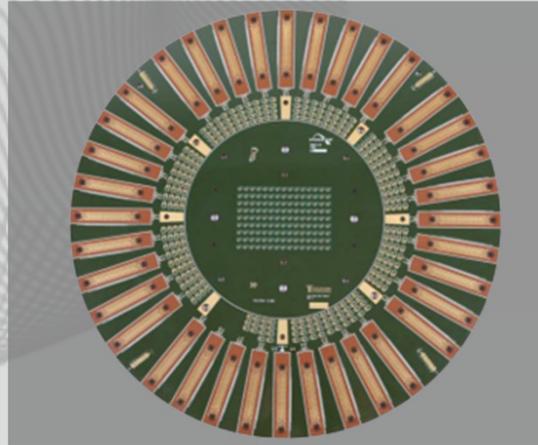
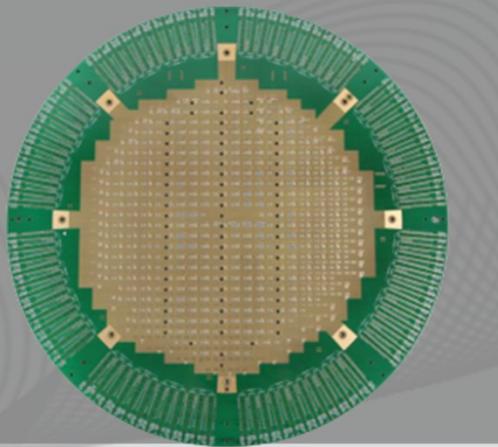


MLB PCB

- 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



Probe Card PCB



Probe Card- Memory

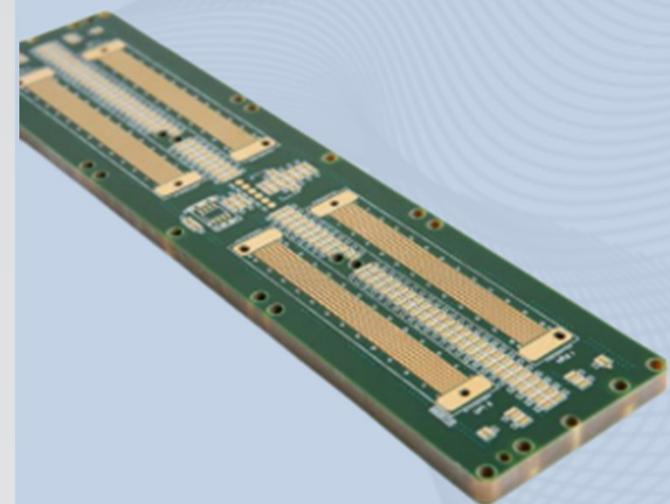
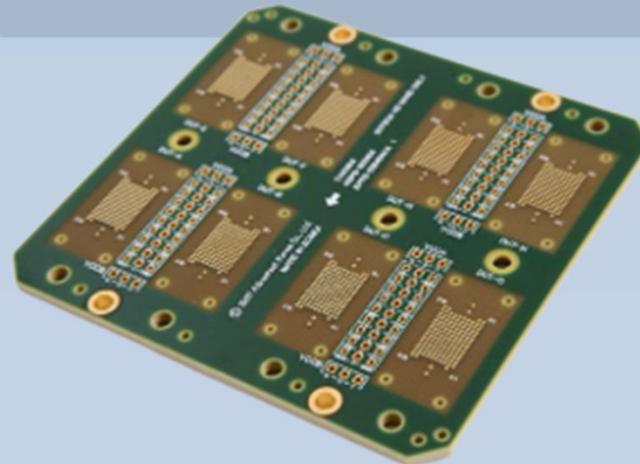
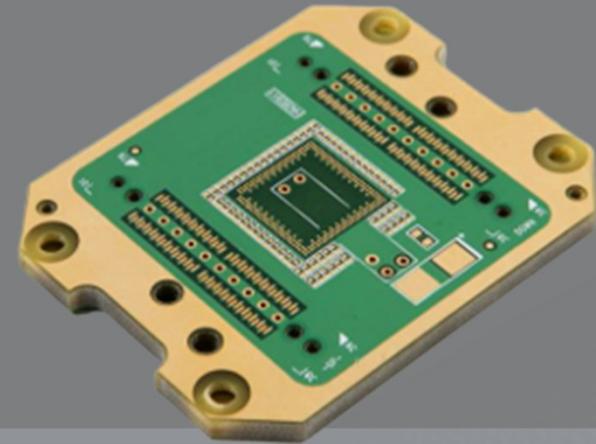
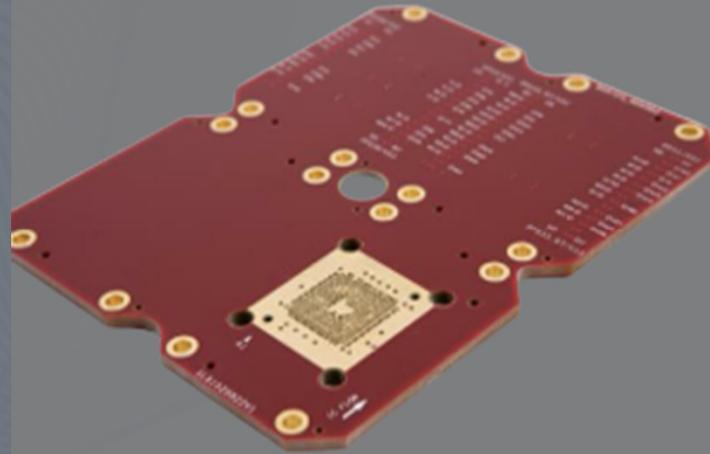
Probe Card- Non Memory

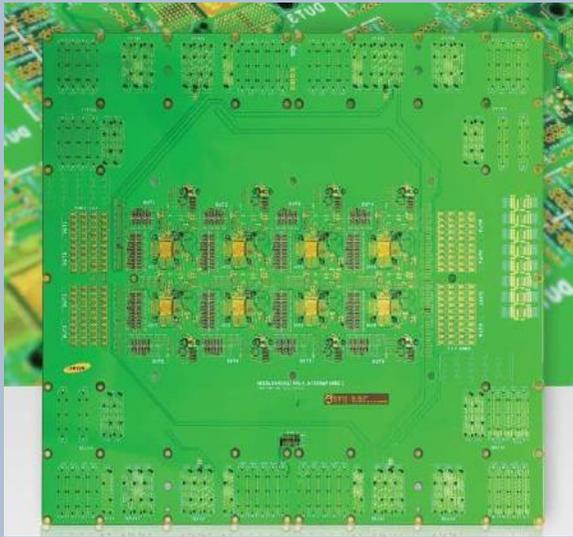
- Layer : -122
- Thickness : 7,40 mm
- Material : FR-4 or Megtorn4 and 6 or EMC
- Size : 440,00 mm, 480,00 mm or 520,00 mm
- Via-in-pad (HPL) and Blind-via-hole (BVH)
- Back Drill

- 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

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)



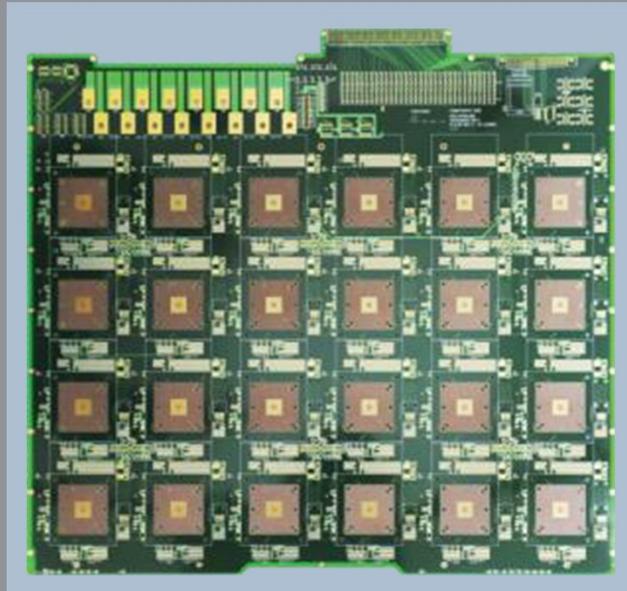
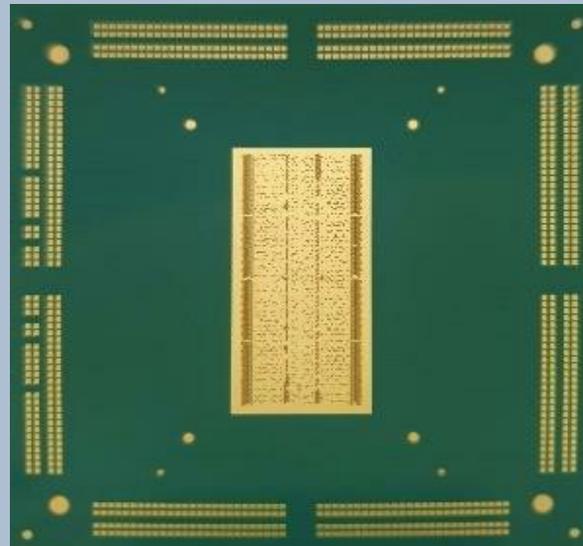


Load PCB

- 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

Many thanks!



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