



Laser Depaneling Machine (Double Platform)

DONGGUAN VESHAY LASER TECHNOLOGY CO., LTD

Dedicated to Laser precision Machining Solutions



Brief Introduction

Veshay has been involved deeply in the line of PCB, with main products such as PCB Data Loggers, Visualizing Laser Marking machines, PCB Laser Marking Machines, and PCB De-paneling Machine, etc. We are now serving 400 customers home and abroad with high-quality products and after-sales service, as well as automatic equipment.



Main products cover PCB/FPC Laser Depaneling Machines, PCB Thickness Measurement System, PCB Copper Thickness Measurement System, PCB Laser Marking System, Visualizing Laser Marking System, and Stress-Strain Measurement System, etc., which are widely used in Semiconductor, 3C industry, Photovoltaic, New energy, Printed Circuit Boards, Display Panels, Glass Deep-Processing and other Industries and Fields.



Double Platform High Precision Laser Cutting Machine WXR-220UD

Features



Double Platform Depaneling Machine, as a precision equipment developed by our company to meet with market demands, is mainly used for shape cutting and depaneling FPC and PCB product, etc. The equipment consists of a laser cutting mechanism, cutting and positioning mechanism, cutting and dust removal mechanism and cutting platform mechanism. Lengths and widths for cutting various products can be adjusted manually.

Features of Double Platform Laser Depaneling Machine are Strong Compatibility, High Precision, Fast Speed, Good Stability, and Compact Size, etc. Both software and hardware are completely developed by our company, which is friendly to use.



High Precision Laser Cutting Machine WXR-220UD

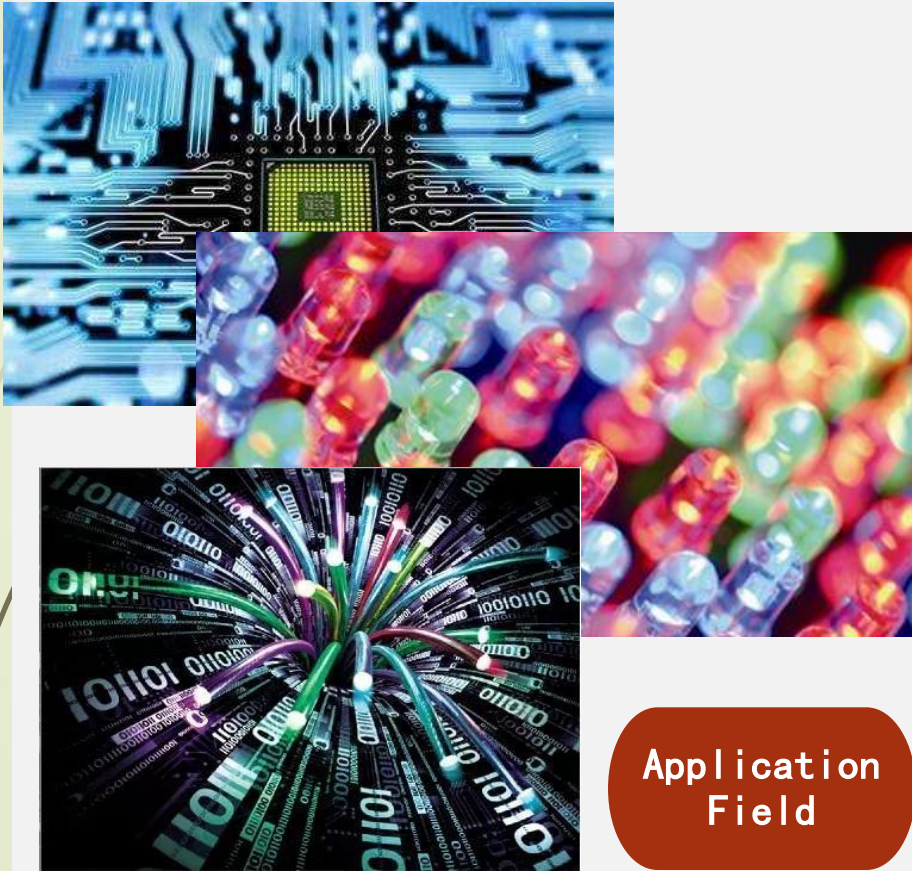
Equipment Parameters



设备外形：长1600mmX宽1600mmX高1720mm

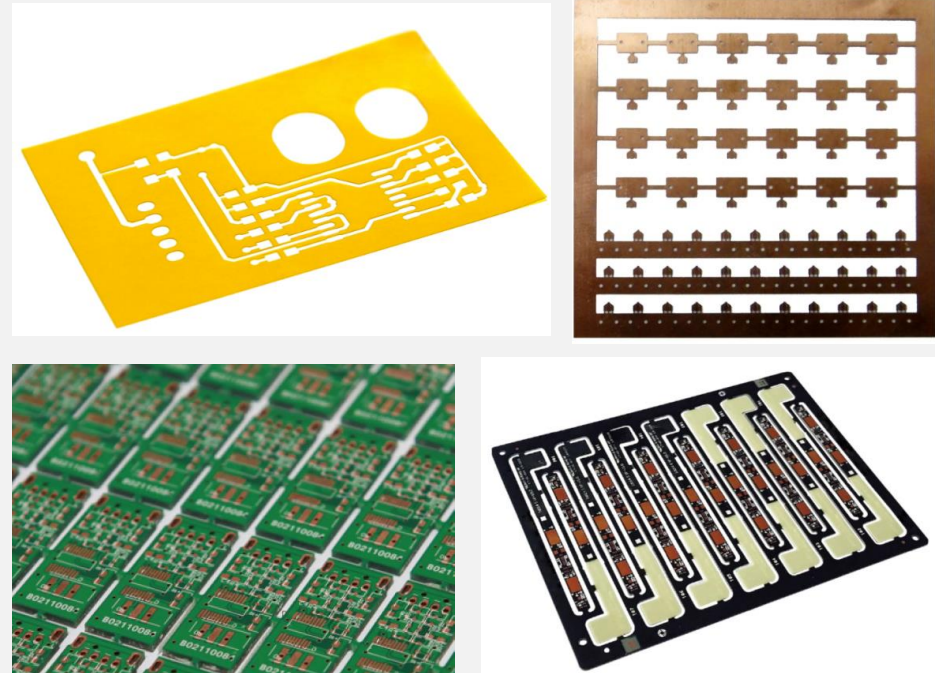
Equipment Parameters	
Equipment	Double Platform High Precision Laser Cutting Machine
Style No.	WXR-220UD
Laser	20W UV Laser, Nanosecond
Cutting Format	350mm×500mm
Platform	Double Platform
Application Objects	PCB
Comprehensive Accuracy	±0.025mm
Loading and Unloading	Manually
Support Files	DXF ,etc
Operation System	WIN10
Equipment Weight	About 2.5K Ton

Application Area



Application Field

Semiconduct, Integrated Circuits, Communication, and Lighting, etc



Application Objects

LCP, MPI, PI, FR4, FR5 and CEM and Polyester, Ceramic and other RF material

Equipment Advantages



Non-contact

No Mechanical Stress and Deformation



Wide Adaptability

Can process any complex graphics
Comptaible with a variety of materials



Environment-friendly

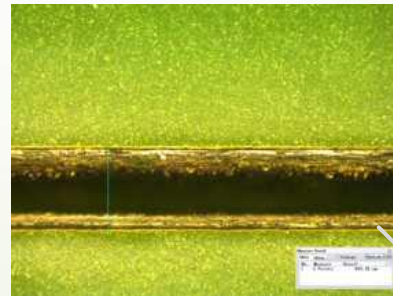
Less Dust, High Efficiency and Energy Saving



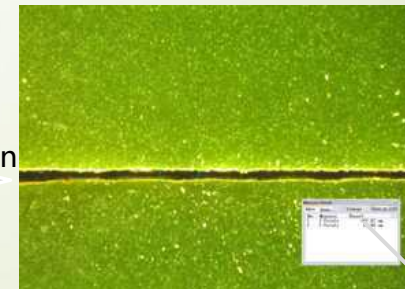
High-Accuracy

Narrow Cut Joint
Lower Thermal Impact

Processing Method	Cutting Width
Conventional Mechanical Methods	0.5-1.0 mm
CO ₂ /Infrared Laser	80 - 120 μm
UV Laser	<25 μm



Cutting Width Comparison



CO₂

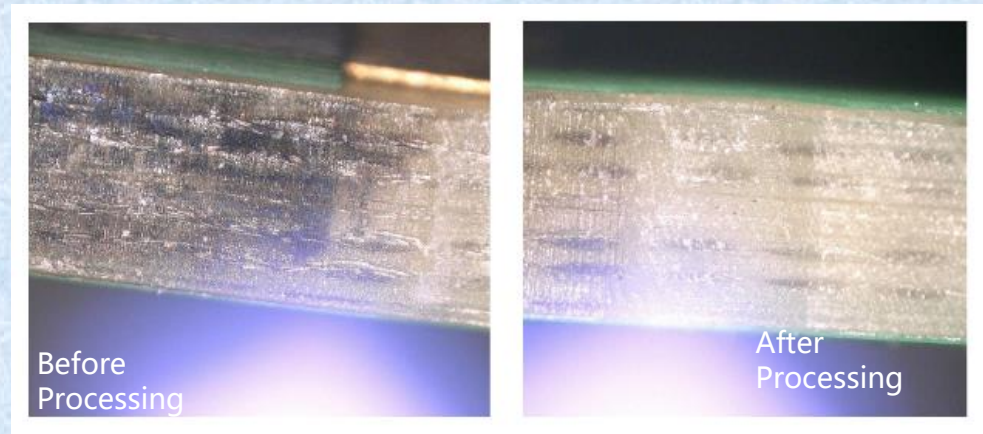
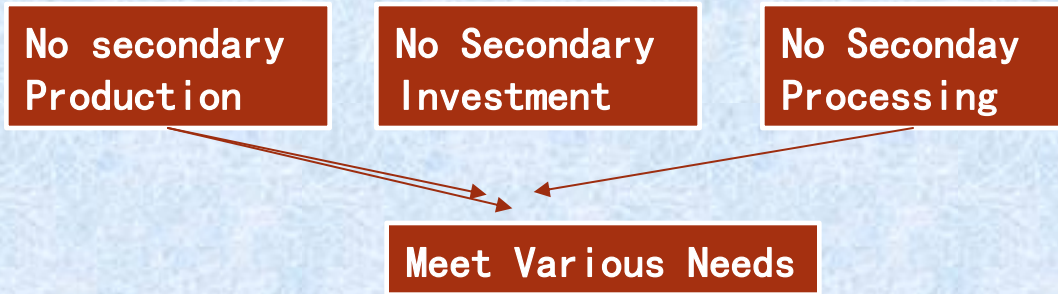
UV

➔ High Precision Laser Cutting System—Super Clean Technology

Perfectly embedded with the depaneling process, fully automatic online operation, flexible configuration, to achieve the perfect unity of speed, precision and effect.



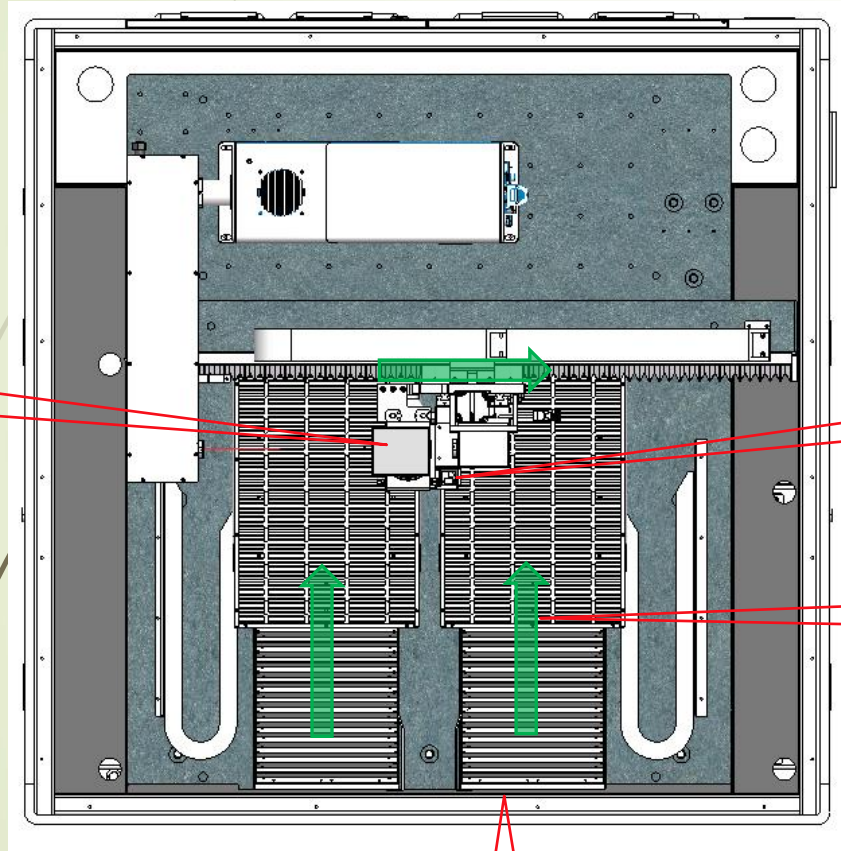
Super Clean Cutting Technology



Comparison of Before-After Super Clean Cutting



Inner Process



Laser Cutting

Visual Positioning

Cutting Operation

Loading and Unloading Position

Operation Process:

1. Place the board on the cutting platform and position it against the edge ;
2. Press the start button;
3. Vacuum suction is activated to tighten the product;
4. Visual System captures Mark points, locate and calculate ups and downs ;
5. Cutting mechanism cuts the boards according to the pattern automatically ;
6. The cutting platform moves to loading and unloading position automatically after the above process ;
7. Vacuum adsorption stopping ;
8. Remove processed boards manually.

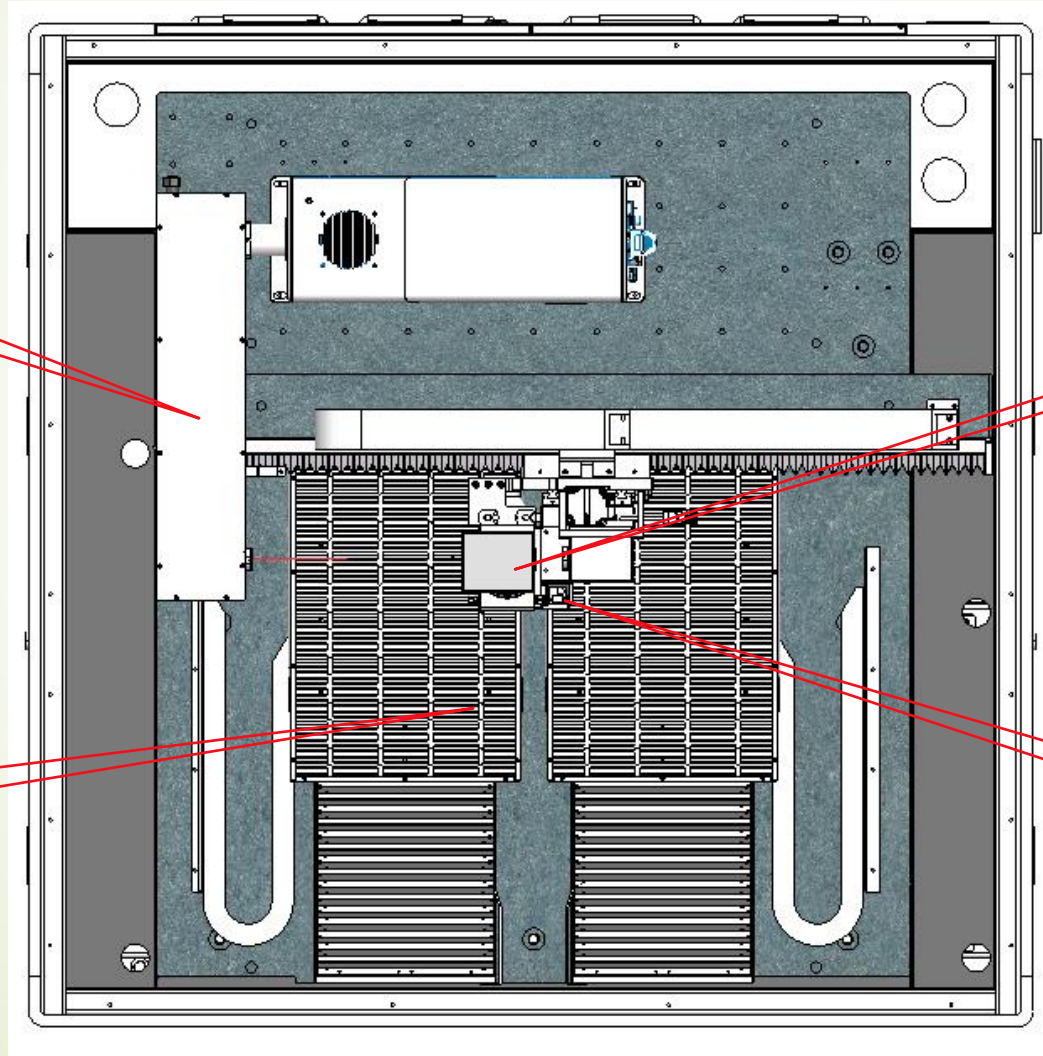
Equipment Inner Structure

Laser System

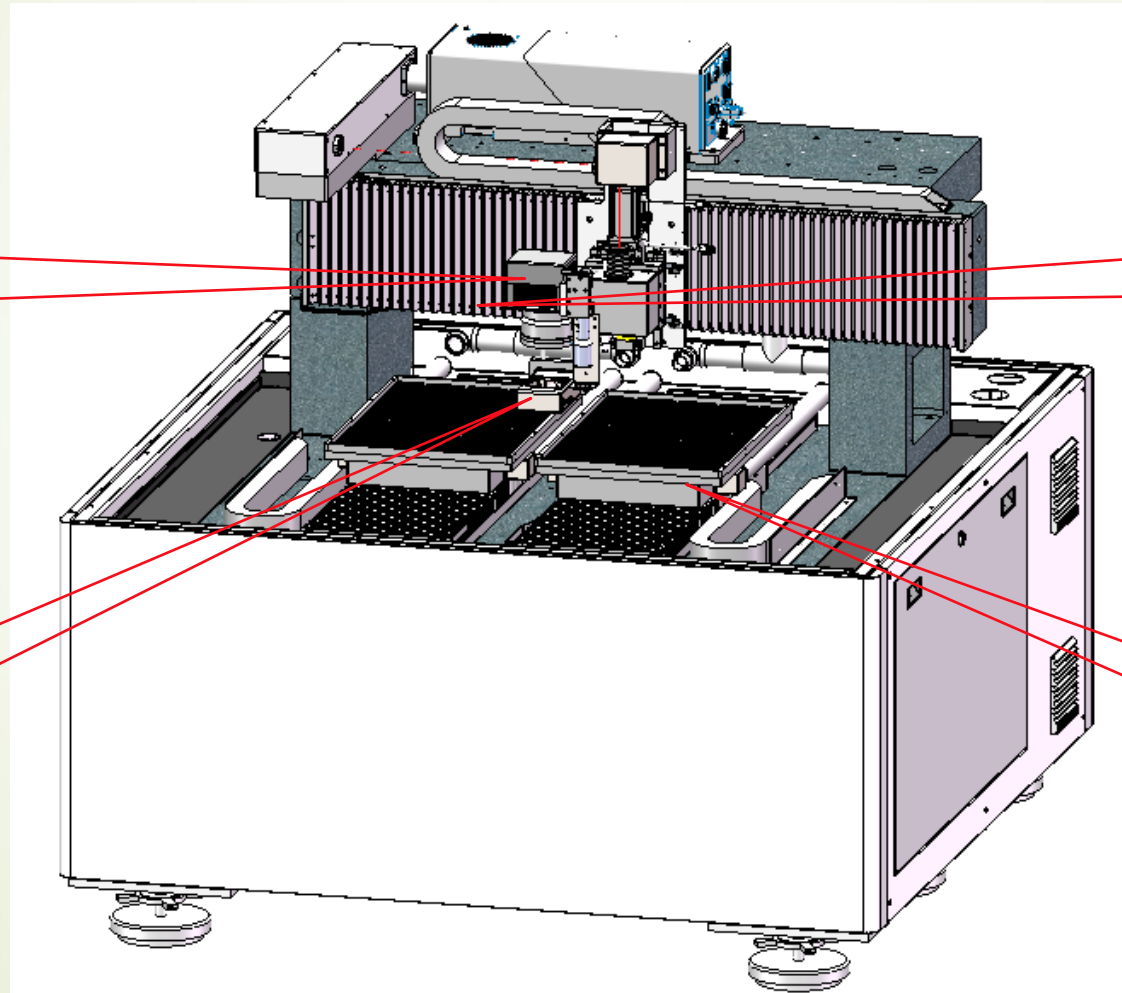
Cutting Field Lens

Cutting Platform

Positioning Camera



Equipment Inner Structure and Process



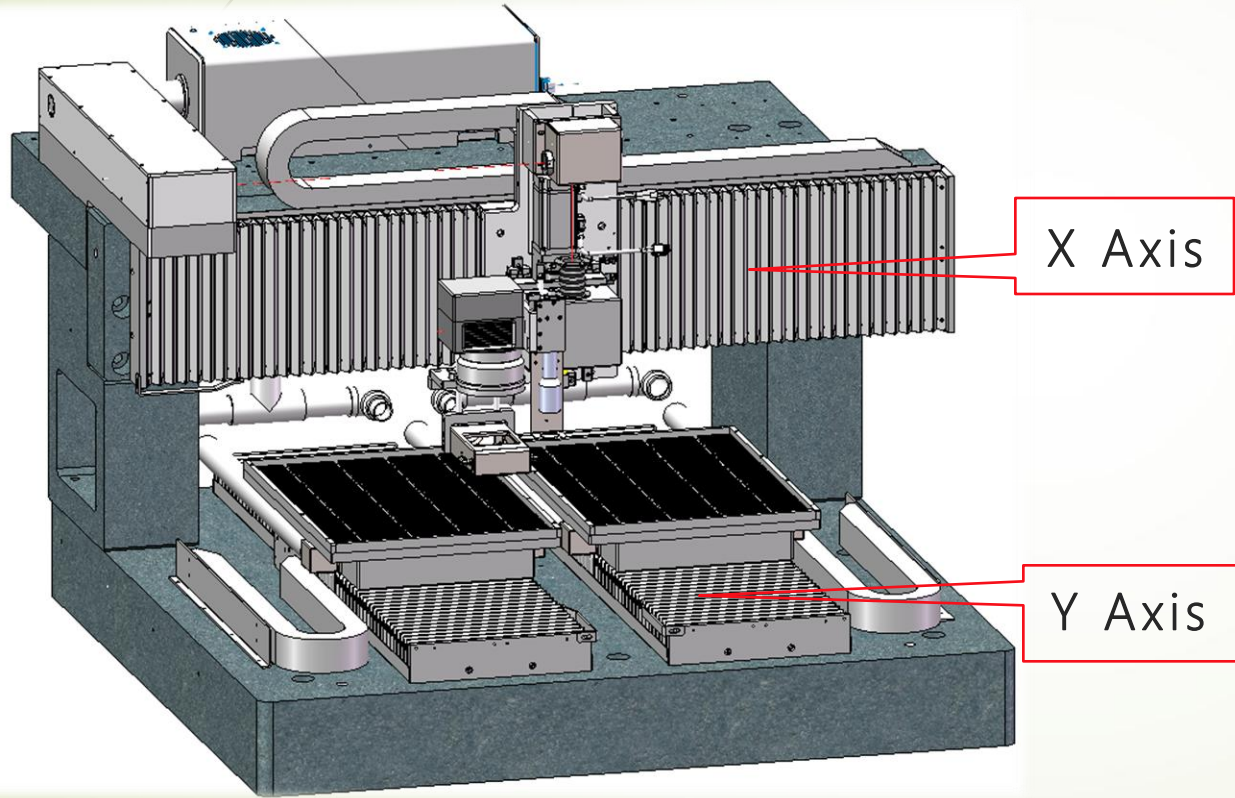
Laser Cell
Automatic Optic Shutter
High-speed Field Lens
Auto Focus

CCD
Precision Positioning
Multi-joint Positioning
Automatic Equalization

Dust Remove Unit
Air Knife
Draw dust with
Mass Flow

Cutting Platform
Linear motor platform
Vacuum Absorption
Positioning

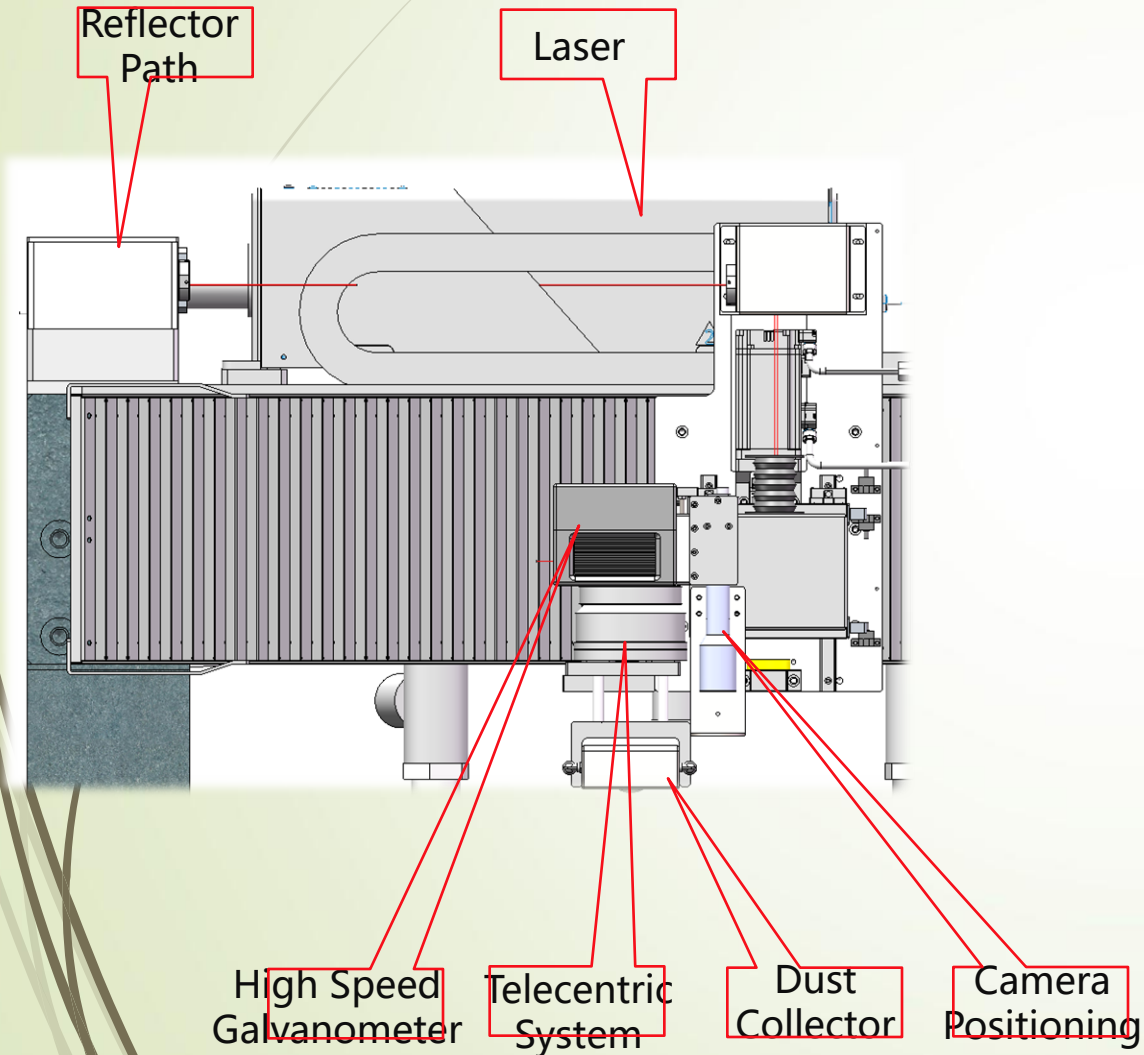
Movement Platform



- Processing platform is mounted on the Y-axis, where the product is placed and adsorbed flat. ;
- Laser cutting after MARK positioning by Platform moving.

Main Components	Specification	Parameters
X Axis Linear Motor	Effective Travel	850mm
	Acceleration	$\leq 10000\text{mm/s}^2$
	Speed	$\leq 1000\text{mm/s}$
	Positioning Accuracy	$\leq \pm 2\mu\text{m}$
	Repeating Positioning Accuracy	$\leq \pm 1\mu\text{m}$
Y Axis Linear Motor	Effective Travel	650mm
	Acceleration	$\leq 10000\text{mm/s}^2$
	Speed	$\leq 1000\text{mm/s}$
	Positioning Accuracy	$\leq \pm 2\mu\text{m}$
	Repeating Positioning Accuracy	$\leq \pm 1\mu\text{m}$

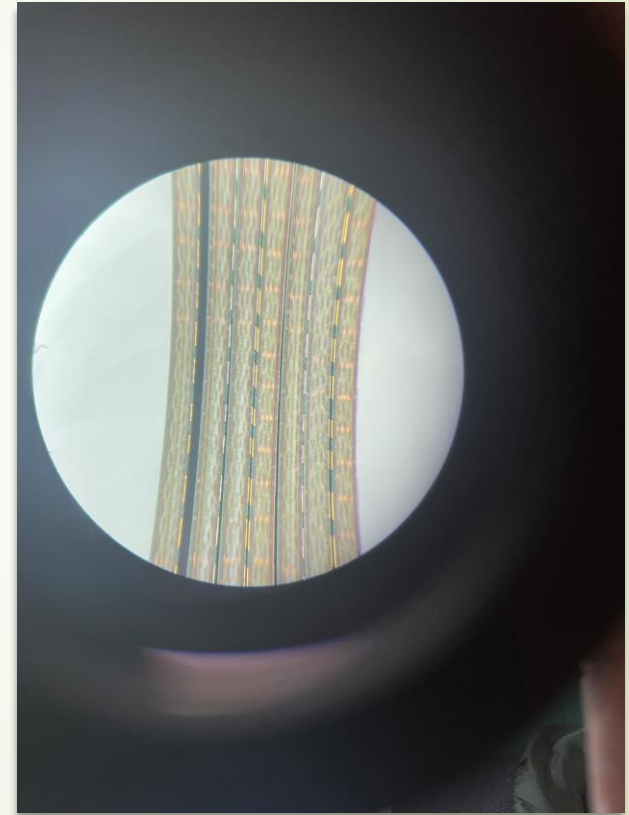
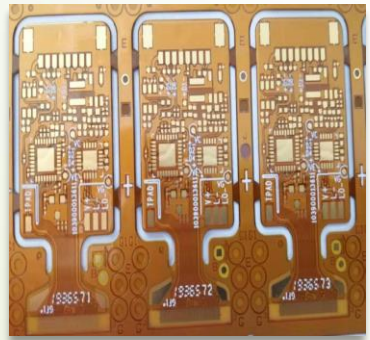
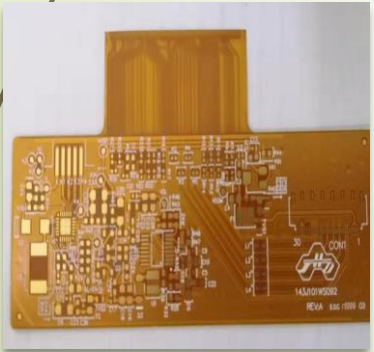
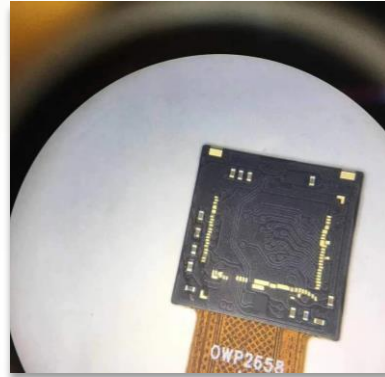
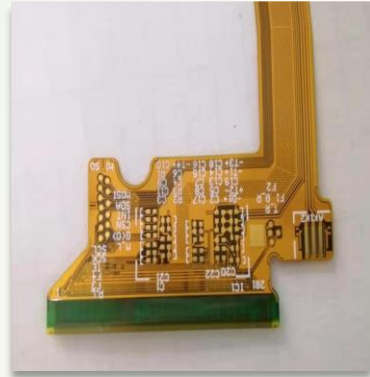
Laser Module Structure



	Main Components	Specification	Parameter
Laser Module	Laser Device	Laser Type	UV Nanosecond
		Laser Length	355nm
		Power	20W
		Beam Quality m^2	< 1.2
		Frequency	0kHz~500kHz
		Cooling Method	Water Cooling
Galvanometer System	Galvanometer System	Cutting Range	50mm*50mm
		Scanning Speed	3m/s
		Repeating Positioning Accuracy	< 2 μ rad

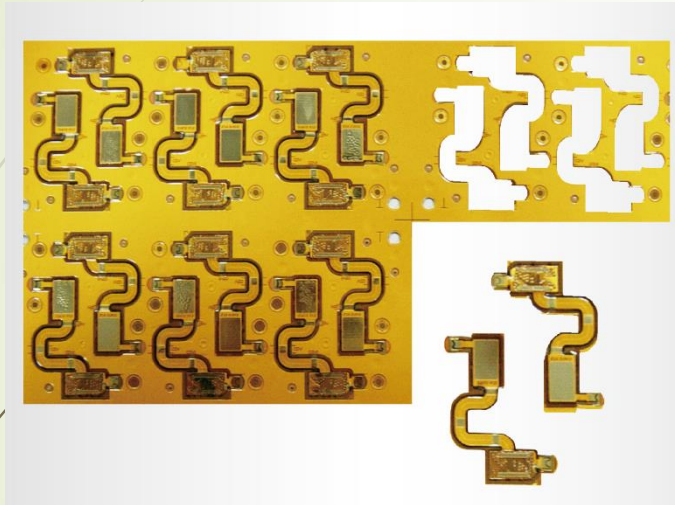
1. Outfit both air knife and strong vacuum to protect products and field mirror from pollution of the dust, and install the laser cover to protect person from the laser ;
2. Laser cutting after MARK positioning by Platform moving

Processing Effect





➔ High Precision Laser Cutting System —Application Cases

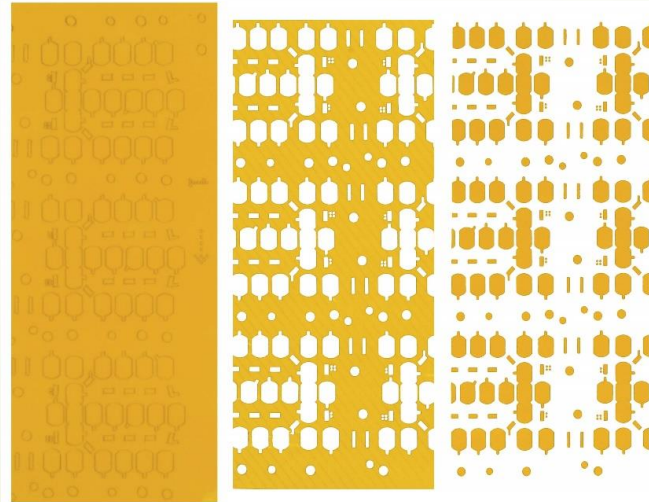


FPC Shapes Cutting

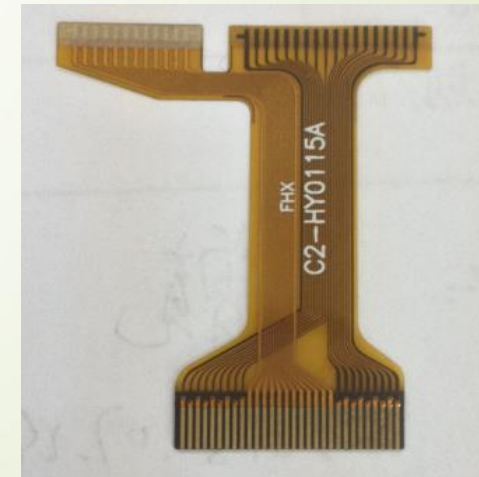


PCB Depaneling

Application Object: LCP, MPI,PI,FR4,FR5,
and CEM and Polyester, Ceramic
and other RF Material



Coverlay Cutting



Gold Finger Cutting



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