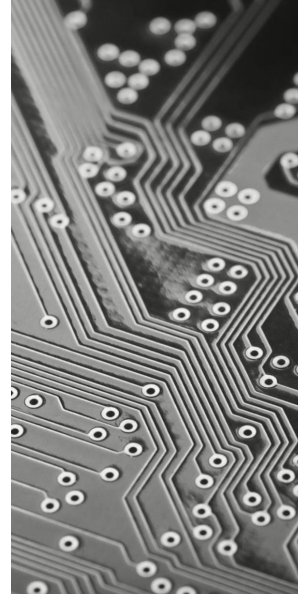


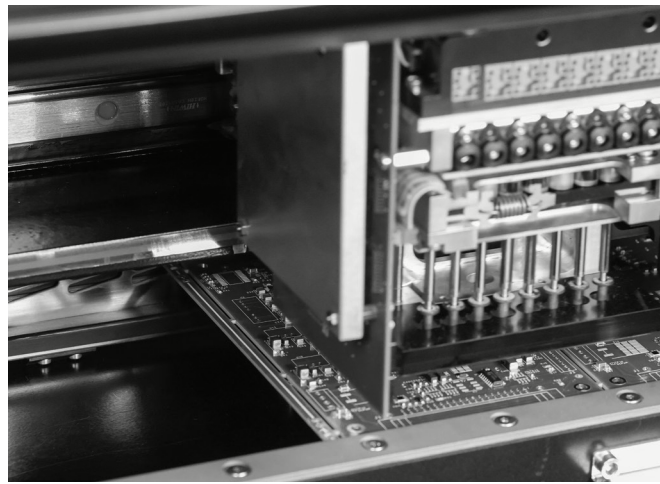
**PCB
Power**

Empower your electronics

PCB Turnkey (Fabrication + Assembly) Order Checklist



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PCB Turnkey (Fabrication + Assembly) Order Checklist

Essential Documentation & Files

Input Data Package

- [] Gerber files for all circuit layers - signal layers, power planes, ground planes
- [] Mask layers - solder mask for top and bottom sides
- [] Silk layers - silkscreen for component markings and text
- [] Paste layers - solder paste stencil data (if assembly required)
- [] Outline layer - board shape and dimensions
- [] Drill file - hole sizes, locations, and specifications

Please note -

1. Preferred format is RS-274X (Extended Gerber)
2. File names clearly indicate function (e.g., Top Copper.GTL, BoardOutline.GM1)

PCB Specifications

- [] Quantity & Lead time - production quantity and delivery requirements.
Mention it each for fabrication, component sourcing and assembly
- [] PCB Type - rigid, flex, or rigid-flex specification
- [] PCB Size - board dimensions with tolerances
- [] PCB Thickness - total stackup thickness (standard: 1.6mm or custom)
- [] Copper finish - copper weight for each layer (1oz, 2oz, etc.)
- [] Surface finish requirements - HASL, ENIG, OSP, or other finishes
- [] Customer panel details - if panelization is required
- [] Special requirements - solder mask/silk colors, logo/date codes, tolerances, etc.
- [] Material specification - FR4 standard or special materials like high-Tg

Impedance Control Requirements

- [] Impedance details included - controlled impedance requirements
- [] Track width of signal tracks - specify trace widths for impedance control
- [] Signal layer - identify which layers require impedance control
- [] Reference layer - specify reference planes for impedance calculation
- [] Impedance value - target impedance values (e.g., 50Ω, 100Ω differential)
- [] Stack up details - layer arrangement and dielectric specifications

Bill of Materials (BOM) File

- [] **Manufacturer Part Number (MPN) for each component**
- [] **Quantity required for 1 PCB/Array clearly specified**
- [] **Unique component identity with reference designator**
- [] **Component description matching available information**

Please note -

1. Preferred format is .xlsx or .csv
-

Component Organization

- [] **Grouped components where same part used for multiple designators**
- [] **Part description and package/footprint details included**
- [] **DNP (Do Not Populate) components clearly marked**
- [] **Component values and tolerances specified**
- [] **Alternative parts listed (if acceptable)**

Centroid Pick & Place (CPL) File

Required Data Fields

- [] **XY coordinates for each component placement**
- [] **Rotation angle for proper component orientation**
- [] **Reference designator matching BOM file**
- [] **Top/Bottom side designation for each component**

Please note -

1. Preferred format is csv or txt
-

Data Accuracy

- [] **Coordinate system clearly defined (origin point)**
- [] **Units specified (mm or inches)**
- [] **Component centroids accurately positioned**
- [] **Rotation values correct for component orientation**

Assembly Documentation

Assembly Drawing

- [] Component polarity clearly marked (diodes, capacitors, ICs)
 - [] Pin 1 marking and orientation indicators
 - [] Critical component placement highlighted
 - [] Keep-out areas and clearance requirements
 - [] Assembly notes and special instructions
-

Technical Drawings

- [] Top and bottom assembly views provided
- [] Component placement drawings with dimensions
- [] Cross-sectional views (if required)
- [] Detail views for critical areas

Special Instructions & Requirements

Coating & Cleaning

- [] Conformal coating requirements specified
 - [] Cleaning specifications (if required)
 - [] Masking requirements for connectors/test points
-

Testing & Inspection

- [] Test requirements clearly defined
 - [] Inspection criteria and standards
 - [] Functional testing procedures
-

Assembly Process

- [] Solder paste type specified (lead-free, leaded)
- [] PCB stencil type requirements (laser-cut, chemical etch)

Component Supply Options

Turnkey Orders (Full Service)

- All components included in BOM and available
 - No obsolete components verified
-

Consigned Orders (Customer-Supplied Parts)

- Component reels and bags labeled with part numbers
- Reference designators clearly marked on packaging
- Extra components provided (recommended 5-10% overage)
- Component shelf life and storage requirements met
- Moisture sensitivity handling requirements

Quality & Standards

Assembly Standards

- IPC-A-610 class specified (Class 1, 2, or 3)
 - Workmanship standards defined
 - Acceptance criteria established
 - Rework guidelines provided
-

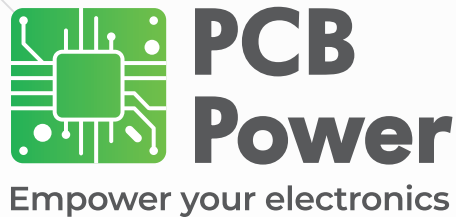
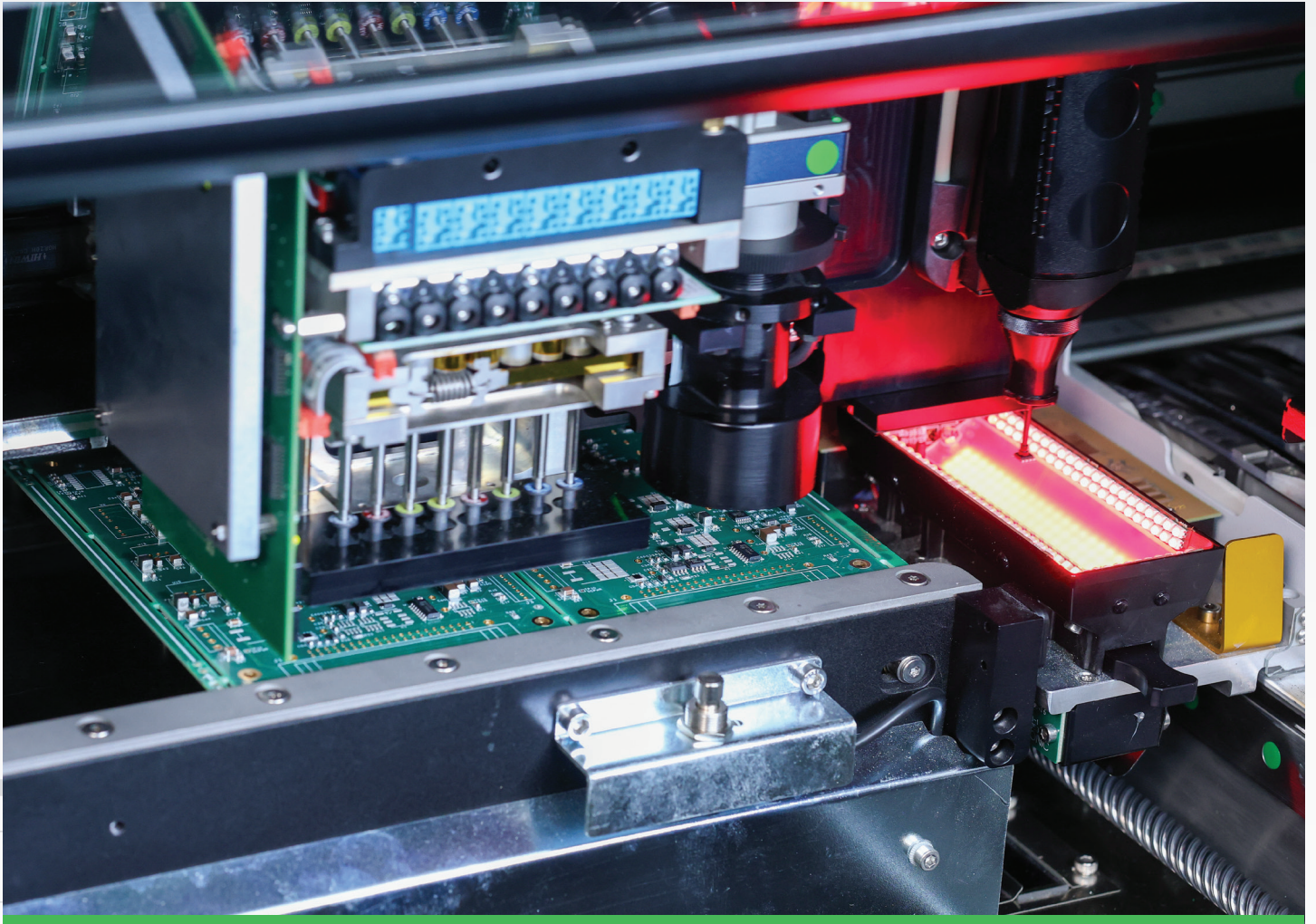
File Compatibility Check

- BOM matches pick & place file reference designators
 - Component footprints match PCB layout
 - Polarity indicators consistent across all documents
 - Version control - all files are latest revision
-

Component Availability

- Lead times for all components verified
- Minimum order quantities considered
- Alternative components approved (if needed)
- Custom or long-lead items identified early

Contact our [assembly team](#) for technical support or clarification on any requirements.



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