

## Capabilities

| Category                                   | Description  | Capability   |
|--|--|--|
| <b>File Formats</b>                        | Gerber files- preferred format   | 274-X,274-D, DPF, ODB++                              |
|  | Drill file   | X & Y coordinates, with tool sizes included          |
| <b>Size</b>                                | Maximum finished dimensions  | 550mm x 700mm – Single/ Double-sided                 |
|  |  | 550mm x 700mm - Multi-layer                          |
| <b>Board Thickness</b>                     | Standard   | 1.6mm ±10% (0.062” ±10%)                             |
|  | Minimum  | Single- Double-sided: 0.2mm ± 0.1mm (0.008” ±0.004”) |
|  |  | 4-layer: 0.4mm ± 0.1mm (0.016” ± 0.004”)             |
|  |  | 6-layer: 0.6mm ± 0.1mm (0.024” ± 0.004”)             |
|  |  | 8-Layer: 1.0mm ± 0.1mm (0.040” ± 0.004”)             |
| 10-layer: 1.0mm ± 0.12mm (0.040” ± 0.005”) |  |  |
| 12-layer: 1.2mm ± 0.12mm (0.048” ± 0.005”) |  |  |
| ....                                       | 32-layer: 4.0mm ±0.4mm (0.157” ±0.015”) and above  |  |
| Maximum                                    | 6.3mm ±10% (0.248” ±10% )  |  |
| Bow and twist                              | < 7/1000   |  |
| <b>Copper Weight</b>                       | Outer copper weight  | 1 oz (35um) ~ 10 oz (350um)                          |
|  | Inner copper weight  | 1/3 oz (12um) ~ 6 oz (210um)                         |
| <b>Laminate Materials</b>                  | FR-4(High TG, halogen-free)、FR-5、ISOLA(FR408、370HR)、TEFLON、POLYIMIDE<br>ROGERS(RO4003、RO4350、RO4450)、Aluminum plate (Single, Double-sided) |  |

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|----------------------|--|--------------------------|
|                      | FR4 Thickness (standard)   | 1.6mm (0.062")           |
|                      | High TG FR4 (170 deg C) (standard)   | 1.6mm (0.062")           |
| <b>Board Cutting</b> | Maximum number of layers   | 32 layers                |
|                      | Minimum thickness for inner layers (copper thickness are excluded)             | 0.07mm (0.003")          |
| <b>Drilling</b>      | Minimum size   | 0.1mm (0.004")           |
|                      | Maximum size   | 6.0mm                    |
|                      | Drill Deviation (True position size)   | ±0.002" (0.050mm)        |
|                      | PTH hole tolerance   | ±0.003" (0.075mm)        |
|                      | N-PTH hole tolerance   | ±0.002" (0.050mm)        |
|                      | Angle of Countersink   | 80°、 90°、 100°、 120°     |
| <b>Plating</b>       | Minimum hole size  | 0.0008"                  |
|                      | Aspect ratio   | 20                       |
| <b>Etching</b>       | Trace width tolerance  | ±20%                     |
|                      | Minimum trace width / space (1 oz finished copper weight starting from 1/3 oz) | 0.003"/ 0.003" (0.08mm)  |
|                      | Minimum trace width / space (1 oz finished copper weight starting from 1/2 oz) | 0.004"/ 0.004" (0.1mm)   |
|                      | Minimum trace width / space (2 oz finished copper weight)                      | 0.005"/ 0.005" (0.127mm) |
|                      | Minimum trace width / space (3 oz finished copper weight)                      | 0.008"/ 0.008" (0.2mm)   |

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|                             | Minimum trace width / space (4 oz finished copper weight) | 0.012"/ 0.012" (0.3mm)   |
| <b>Inner Layers</b>         | Minimum space from drilling to inner pattern              | 0.004"(0.1mm)  |
|                             | Minimum space from annular ring to inner pattern          | 0.004"(0.1mm)  |
|                             | Layer-to-layer registration                               | ±0.003"(0.08mm)  |
| <b>Solder Mask</b>          | Colour  | Green, light green, matte green, white, extreme white, black, matte black, dark brown, yellow, red, blue, transparent. |
|                             | Minimum solder mask clearance                             | 0.003"   |
|                             | Thickness   | 0.0004"  |
| <b>Silkscreen</b>           | Colour  | White, black, yellow, red, blue, green   |
|                             | Minimum trace width                                       | 0.005"   |
|                             | Minimum size  | 0.028" / 0.028"  |
| <b>Electrical Test</b>      | AOI   | Yes  |
|                             | Flying Probe Tester                                       | Yes  |
| <b>Controlled Impedance</b> | Tolerance   | ±10%   |
|                             | Impedance tester  | Tektronix TDS8200  |
| <b>Routing</b>              | End Mills Test  | ±0.15mm (0.006")   |
|                             | CNC Tolerance   | ±0.15mm (0.006")   |
|                             | V-Cut Depth (board thickness > =1.0mm)                    | ±0.1mm (0.004")  |
|                             | V-cut angle deviation                                     | ±0.1mm (0.004")  |
|                             | Semi-hole   | Yes  |

| Category                     | Description   | Capability            |
|------------------------------|---|-----------------------|
| <b>Surface Finish</b>        | HASL, HASL pb free, immersion gold, immersion silver, immersion tin, O.S.P (Entek), S/G plating, ENIG, G/F plating, carbon... |                       |
| <b>Blind and Buried Vias</b> | 3+N+3   | Yes                   |
|                              | Resin, hole-filling ink, Plating through hole   | Yes                   |
| <b>Others</b>                | UL Certification  | Yes                   |
|                              | ISO Certification   | ISO9001/ISO14001/RoHS |