# TEST AND REFERENCE BOARDS

## AT&S

Do it right the first time

Thank you for visiting the AT&S booth. Visit ats.net for more information.



#### **AT&S** guarantees quality

Quality control is a major concern in the semiconductor industry. The ultra-fine structures on modern microchips are expensive to develop and produce, and they're not particularly forgiving of mistakes. That's why processors and other chips are now routinely checked after production using IC testers. The chips are checked using test boards -

#### **Experience is key**

Due to the need to test its own products, AT&S has many years of experience with machines that test electronic systems. This expertise proves very useful when the company produces test boards and we're happy to share it with customers from the semiconductor industry. As one of the market leaders in high-end printed circuit boards, AT&S is also a top provider of reference boards.

#### At your fingertips

AT&S also offers its customers from the semiconductor industry the opportunity to produce their own reference boards. These display systems might be produced when a new generation of chips is developed, for instance. AT&S then produces reference boards that show how the new chip can be integrated onto a printed circuit board.

#### complex adapters that make the fine structures of the microchips visible to the IC testers.



### **Product benefits at a glance**

- Highly complex microchips can be checked on AT&S test boards.
- Due to the high number of layers, several simple chips can be checked at the same time.
- Reference boards save time and make it possible to develop the ecosystem for a chip at an early stage.

### General design rule

	Standard	Advanced		
Material		FR4		
	High Speed Materials: Meg6, Meg7, Tachyon 100G, Astra			



**Combining HDI, Baseboard and ECP** 



- Possible layer count and thickness amplification using ZiC

120 µm to shielding copper

Get access to HDI, mSAP and

Layers

4L - 38L, up to 6-N-6

	· · ·			embedding capabilities	
Thickness	0.5mm - 3.2mm	0.5mm - 5mm			
Max working panel size	21.3"x24.25"	21"x27"		7 Jan	
LW/S	min 40µm/40µm @13µm cu		Smaller Features	Tighter tolerances	
Back drill	Yes min 0.15mm		$ \begin{bmatrix} \\ \\ \\ \end{bmatrix} \begin{bmatrix} \\ \\ \\ \end{bmatrix} \begin{bmatrix} \\ \\ \\ \\ \end{bmatrix} \begin{bmatrix} \\ \\ \\ \\$	thallenging dimensions	
Via size			$_{\text{drift size}} \uparrow_{\text{pcb}}$		
Aspect ratio	1:12	1:19	Dielectric Thickness 90-100µm	Up to <b>5 subpanels</b> Warpage <b>&lt; 0.5%</b>	
Fine pitch	0.4mm	0.3mm	ZIC Pad Diameter >= 550 µm	panel size max 18x24" Min Isolation ZIC Layer	