

Baty Venture Plus 6460

Case Study - March 2016



BOWERS GROUP



Company Name	Merlin Circuit Technology Ltd
Location	Deeside, North Wales, UK
Product Installed	Baty Venture Plus 6460

Industry	Oil and Gas
Component Type	Non Contact Measurement

APPLICATION BACKGROUND

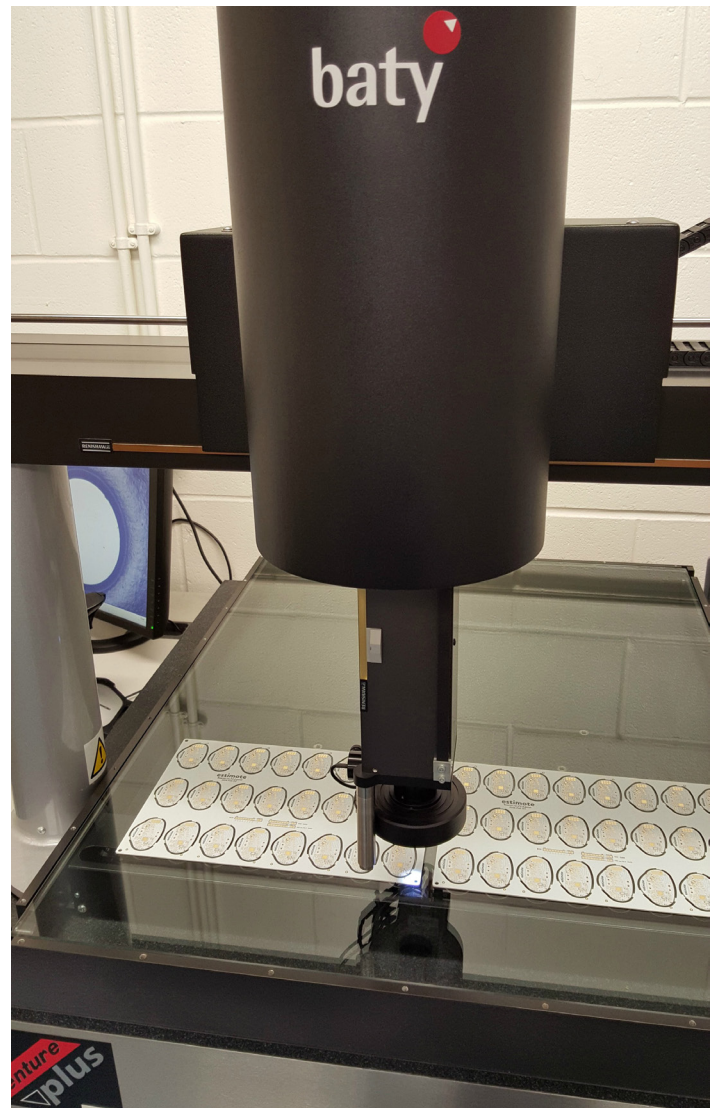
Established in 1992, Merlin Circuit Technology specialises in the manufacture of high technology, rigid printed circuit boards. Based in Deeside, North Wales, the company offers a range of services including the manufacture of small to medium volume printed circuit boards, consisting of between 2 and 32 layers.

Merlin Circuit Technology offers comprehensive technical support from design to manufacture, ensuring all boards are fully tested, and with full First Article Inspection Reports available on request. The AS9100 accredited company firmly believes that quality is the most important part of their business, and are totally committed to the high standards of the products it produces.

CHALLENGE

The high technology printed circuit boards made by Merlin Circuit Technology are supplied for use in high end commercial applications, including medical applications, and for use in the aerospace, defence and security sectors. The majority of circuit boards manufactured have extremely tight tolerances of $\pm 0.10\text{mm}$, therefore the accurate measurement of the circuit boards is of the utmost importance.

Merlin Circuit Technology previously used measurement methods including vernier calipers, pin gauges and micrometers, but found the measurement of radiuses, curves and complex cut outs a struggle with these types of instruments.



SOLUTION

Bowers supplied Merlin Circuit Technology with a Baty Venture Plus 6460 for the accurate measurement of printed circuit boards.



The Baty Venture Plus 6460 gives the company the ability to accurately measure radiuses and curves, and is very simple and easy to use. It's used to measure finished printed circuit boards prior to despatch, in order to verify that they meet drawings and specifications provided by the customer. The printed circuit boards manufactured at Merlin Circuit Technology vary in shape, size and complexity, and include double sided printed circuit boards and multilayer printed circuit boards with up to 32 layers. In addition, the company uses the Venture to verify drill machine and route machining accuracy.

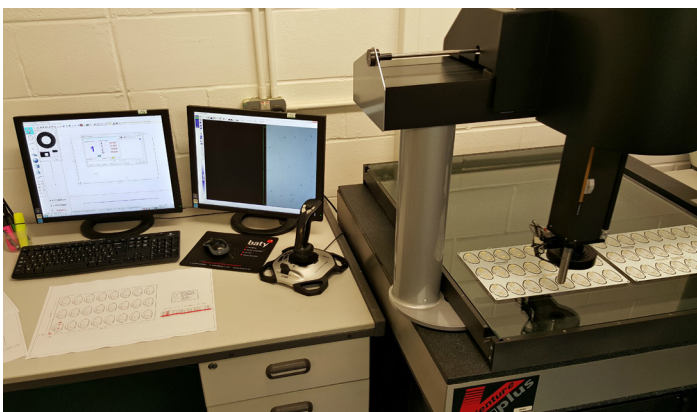
The Venture Plus has also allowed Merlin Circuit Technology to generate First Article Inspection Reports more quickly and with greater ease. With the assurance of quality high on the company's agenda, these formal measurement reports for their manufacturing process are a key factor in their production of circuit boards.

The Venture Plus 6460 Baty Vision System features a 640mm x 600mm x 250mm measuring range. Its bridge type construction is all aluminium, resulting in low inertia and low thermal mass. Air bearings are used on all axes and a granite Y beam is used for increased accuracy. This ensures that the machine will expand and contract uniformly with temperature changes, ensuring minimal distortion and subsequent errors.



COMMENTS

Jonathan Griffiths, Quality Manager at Merlin Circuit Technology said "The Baty Venture Plus 6460 has had a positive effect on our processes here at Merlin Circuit Technology. Not only is it simple and straightforward to use, we are able to meet the high tolerances demanded of our circuit boards, enabling us to deliver high levels of quality and accuracy to our customers. The Venture has also significantly improved our ability to check and verify that a number of our processes including drilling and image printing are operating within limits."



The Venture Plus is complete with standard zoom optics and programmable, segmented LED surface lighting.