

Medical Applications

Application Overview:

Acoustic inspection of medical devices is very far reaching. Inspection of microelectronic devices to medical packaging have proven valuable to many medical device manufacturers.

Package Types:

Pacemakers, ICs, medical packaging

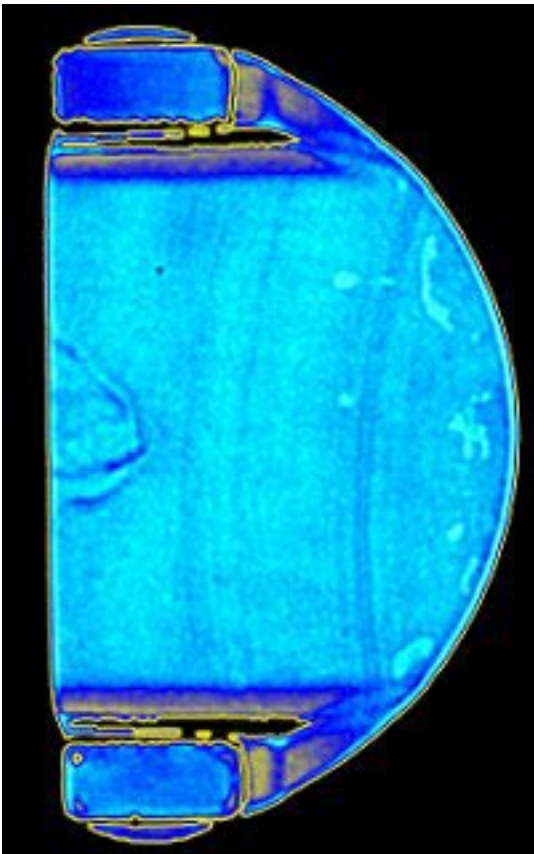
Inspection Standards:

- none -

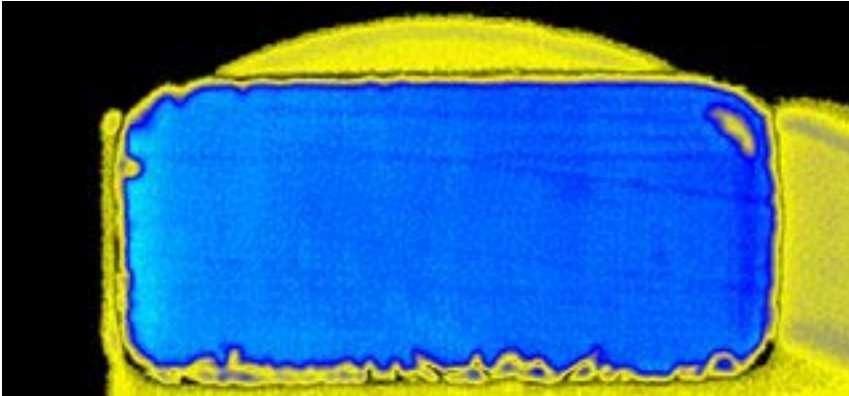
Failure Types Commonly Detected:

Various

Images:



This is a pulse-echo (reflected) mode image of a Low-Temperature Cofired Ceramic (LTCC) substrate. Variations in material composition, voids and material separations can be seen in this image. The light blue regions represent voiding within the ceramic material. These voids may cause a shorting of the metallic traces found at that particular ceramic layer.



This is a pulse-echo (reflected) mode image of a medical package. Voids within the seal cause a 100% reflection of ultrasound. Yellow regions note the location of a seal separation. Other tests can find seal compromises, but acoustic has the ability to detect and image seal defects that have yet to propagate to the edge, but may upon stressing or life tests. The separation may become bigger upon age compromising the seal integrity.