



MicroTechnology

# Component Upscreening

## Upscreening for Hi-Rel Defence, Aerospace and Space Applications



In the continuing drive to reduce costs yet maintain product and system reliability, C-MAC MicroTechnology can provide assistance and solutions with an effective combination of supply chain management and extensive component evaluation.

- › State-of-the-art evaluation facilities
- ›› Wide range of mechanical, electrical and environmental tests
- ›› Highly-skilled evaluation engineers and staff
- ›› Value for money
- ›› Peace of mind and reassurance



## Typical Evaluation Sequence

- » Wafer probe electrical test and device selection
- » High magnification visual inspection and Scanning Electron Microscopy (SEM) analysis for processing conformance, mask alignment and cleanliness
- » Mounting, wirebonding and hermetically sealing the devices individually in cavity packages with materials and processes that are representative of the assembly techniques in the final application
- » Subjecting the device samples to a series of integrity tests:
  - Nuclear radiation - total dose, dose rate and single event upset
  - Electrical parametric - in accordance with manufacturer's data and with consideration of the device application
  - Over temperature - electrical parametric test
  - Accelerated life test - power and signal applied and function monitored
  - Parameter drift over simulated life
- » Mechanical and environmental tests:
  - Real time X-ray analysis of die mounting and
  - Flip Chip joint integrity
  - Temperature cycle - power and signal applied and function monitored
  - Acceleration - vibration and shock
  - Climatic - salt, spray, damp heat (85:85)
  - Lead bend and pull
  - Solderability
  - Hermeticity and residual gas analysis (RGA)
  - Partial impact noise detection (PIND)
  - Accelerated life test
  - Wirebond pull and ball shear
  - Die shear

### For further information contact us at:

#### **C-MAC MicroTechnology**

South Denes, Great Yarmouth,  
Norfolk, NR30 3PX, UK

Tel: +44 (0) 1493 743 100

Email: [info@cmac.com](mailto:info@cmac.com)



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