IC Design Characterisation

Electrical Performance Design Evaluation of Integrated Circuits

We perform independent electrical characterisation of analog, digital and ‘mixed signal’ integrated circuit components for industry. We have decades of experience characterising new IC designs and we are particularly knowledgably in electrically characterising ‘mixed signal’ and analogue components. We can electrically measure both packaged IC’s and wafers. Our capability includes high precision DC measurements, RF measurements and digital timing measurements of integrated circuit designs across the temperature range of -70°C to +225°C.

Each electrical characterisation project is preceded by the compilation of a comprehensive Characterisation Review plan with the customer. Most projects also require the design of a custom Device Under Test printed circuit board, to optimizes the electrical environment and enable us measure the true performance of the integrated circuit. Our software environment is generally Labview based. We’ve developed a large suite of design evaluation software, which can be tuned to your specific measurement requirements and enable us characterise the component optimally. Our staff have the highest level of Labview expertise and we also undertake projects developing specific application Labview software for use at our clients own facility.

We have well equipped test and measurement laboratories in which we perform:

- IC design electrical characterisation of new & re-designed IC’s.
- Electrical evaluation of competing products.
- Application specific compatibility resolution measurements.
- Characterising IC’s outside their normal ‘envelope’ of specified operation.
- Fab process transfer comparative electrical evaluation of IC’s.
- Measurements to facilitate IC re-design for more competitive performance and cost
- TLP characterisation of ESD protection structures.
- Diagnostic work & failure evaluation
- ‘Smart Card’ IC security assessment

Design evaluation performed on a custom designed D.U.T. board for high performance measurements

**Example of IC's we regularly characterise:**

- Precision references
- Sensor products
- Op-Amps & Comparators
- Phase Lock Loops & DLL’s
- uConverters
- High speed ADCs
- Sigma/Delta Converters
- High precision DACs
- Switches / Multiplexers
- Integrated passives components
- Automotive products
- Power management IC’s
- Video Encoders & Digitisers
- Audio products
- RF IC’s

**Contact** enquiry (at) tyndall (dot) ie for all Business Development enquiries