

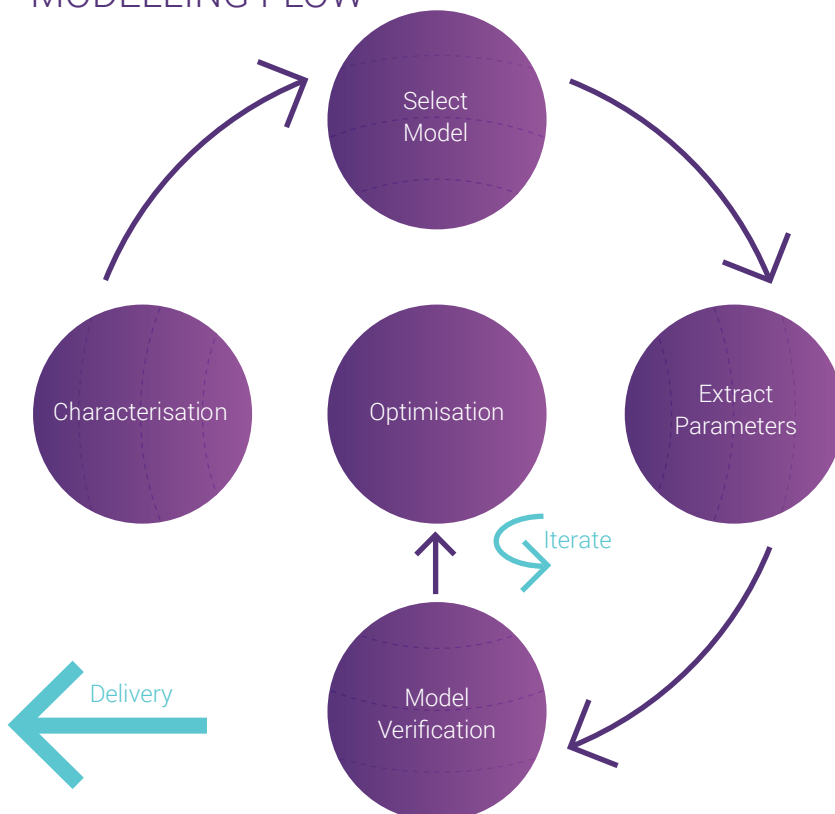
RF DEVICE MODELLING SERVICES

The Catapult design centre has developed the advanced measurement setups, software-sets and skilled expertise required to develop and fully validate highly accurate compact models. The end to end modelling flow starts with advanced characterization of the semiconductor device, next the most suitable model type is selected before the model parameters are extracted, then an iterative loop involving model validation and optimisation is excited until the required model accuracy is obtained.

MEASUREMENT CAPABILITIES

- On wafer and connectorized measurements
- S-parameters: 30KHz-67GHz
- Pulsed bias
- High Power Pulsed IV
- Measurements over temperature (-55 - 200C)
- Load-Pull for Model Validation 0.3-67 GHZ
- Measurements of ESR, CV and Q

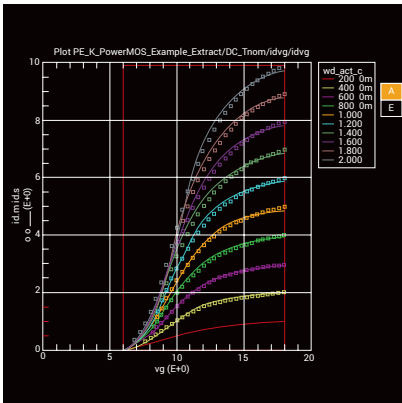
MODELLING FLOW



MODEL TYPES AND FEATURES

Angelov GaN Model

Advanced model developed by Prof. I. Angelov at Chalmers University. This model is specifically targeted at GaN devices and accurately models trapping and thermal effects.

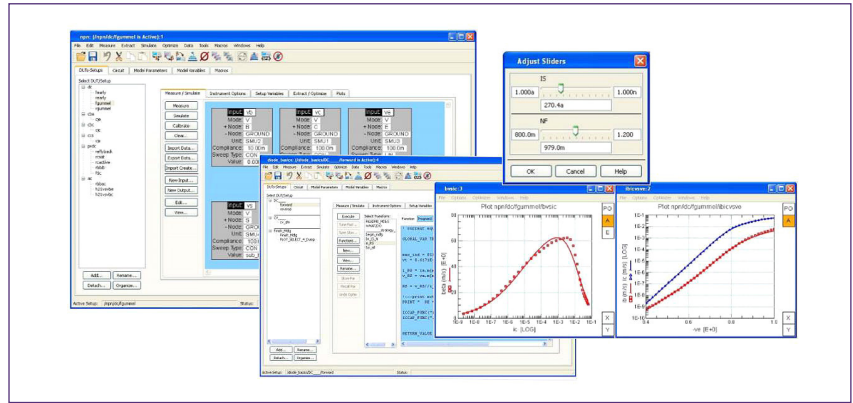


Root Model

Process and technology independent with high-speed model generation, model all non-linearities including frequency dispersion, these models are scalable for varying geometries.

High Frequency FET Model

Empirical, non-linear models for GaAs FET or HEMT applications, accurately model DC, s-parameter, time delay, sub-threshold current and dispersion of R_{ds} . Model includes transcapacitance and self-heating effects.



SIMULATOR COMPATIBILITY

- National Instruments AWR
- Keysight Advanced Design System (ADS)
- Keysight Genesys
- Cadence SPECTRE
- Mentor ELDO
- Synopsys HSPICE



The Catapult aims to generate economic growth by making the UK a global leader in developing and commercialising new applications for compound semiconductors.

For more information on Catapult RF & Microwave capability:

Tel: +44 1633 373121

Twitter: @CSACatapult

Website: www.csa.catapult.org.uk

Email: info@csa.catapult.org.uk

LinkedIn: [linkedin.com/company/csacatapult/](https://www.linkedin.com/company/csacatapult/)

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