EMI Parameters for IBIS

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Introduction

- Reason for this presentation
  - Increasing interest in modeling EMI
  - The parameters that exist today
- Recap of BIRD 74
- What’s next
Recap of BIRD 74

- BIRD74_recap_a.pdf
  - Will be uploaded to the IBIS web site along with this presentation

- Contents
  - History
  - Why the BIRD was introduced
  - EMI Mechanisms
  - The Parameters
  - Using the Parameters
  - Reference Documents
BIRD 74 Parameters

- **Component**
  - **Component Type**
    Indicates whether the component is a connector.
  - **Domain**
    Defines whether the component is Analog, Digital or both.
  - **Family**
    Describes the logic family. This can be one of UNDEF, TTL, CMOS or ECL.
  - **Cpd**
    Power Dissipation Capacitance. (Used to estimate DC power bus EMI)
  - **Die_height**
    Height of the die within the package
  - **Heatsink**
    Heatsink dimensions (used to calculate its capacitance)

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BIRD 74 Parameters

- Pin
  - **CSPEC name**
    Describes a user definable name that corresponds to a model listed in the [Model] keyword. Used to define connector pin impedances. Only used when the component is a connector.

- Model
  - **Ferrite**
    Indicates that the model for this pin is a ferrite.
  - **Cspec**
    Assigns parameters to the pin CSPEC name. Possibilities are: the pin is **Unshielded**, **Shielded** (ground pins provide the shield), **Shielded_pwr** (power pins provide the shield), or **Con_to_shield** (pin connected to connector shell). In addition the pin can have an explicit filter capacitance. This is used to calculate an antenna impedance for the pin.
(Some) References


What’s next

- Information gathering
  - What new parameters are needed?
  - Reference documentation
  - Cookbook