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Sample Model for IBIS AMI Standard

Cadence

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Outline

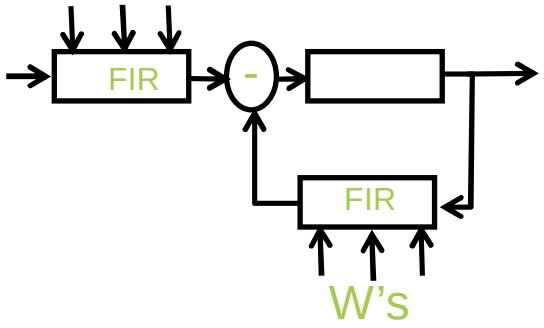
- Introduction
- Reference Model
- Tester Program
- Impulse Response
- Input Waveform
- Output Waveform

Introduction

- IBIS ATM approved Draft BIRD for AMI Models
- Next Step: Proof-of-Concept
  - Build and Test prototype models
- Cadence reference Rx model (dll) and a tester program discussed in following slides

Reference Rx Model

- DFE Filter
  - Adjustable Number of Taps
  - Supports Multiple Data Rates
  - True Non-Linear DFE (Not Ideal)
  - Implemented using GetWave
  - Init Initializes the DFE coefficients
    - Init does not modify Impulse Response
  - Returns Ideal Clock



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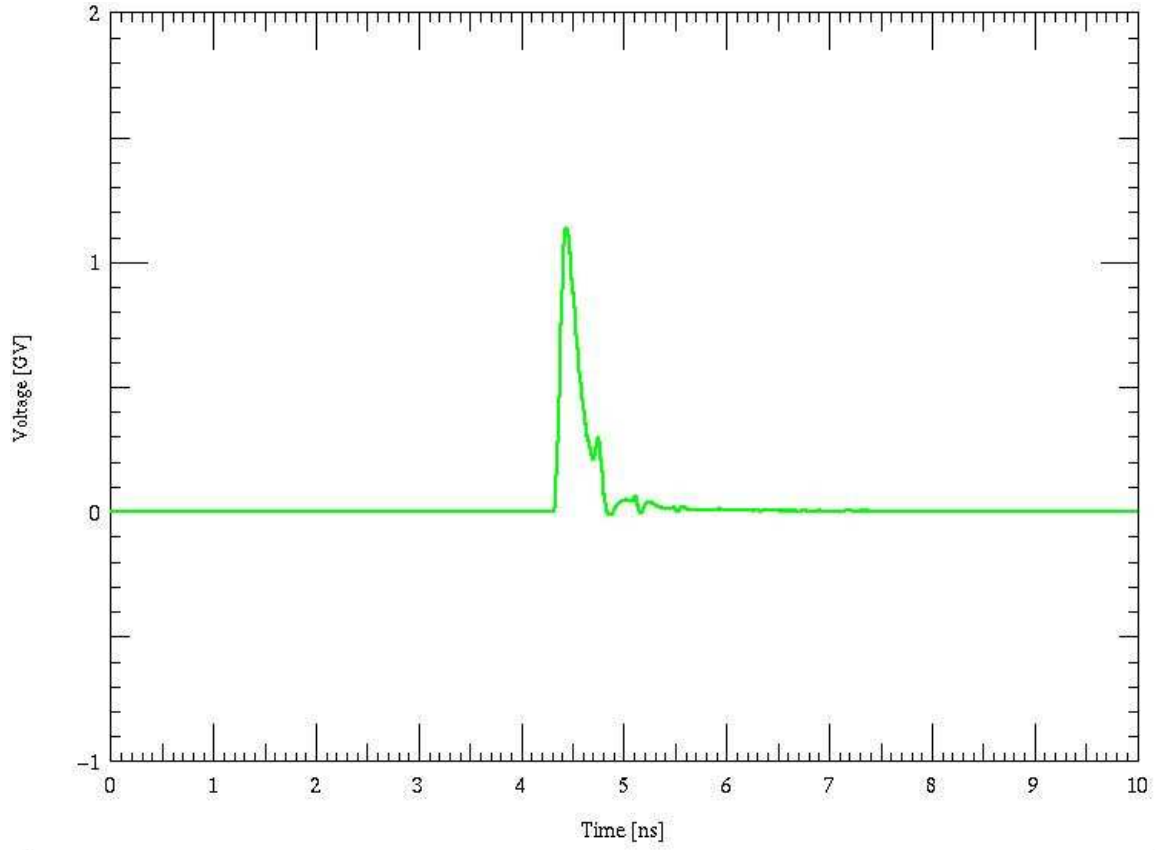
Tester Program

- Inputs:
  - Impulse Response, 2 column txt file, with equidistant first column (time)
  - TX or RX model (dll)
  - Stimulus Input OR Data Rate and Number of bits (input automatically generated by tester)
  - Parameter in tree string format
- Outputs:
  - Stimulus input,
  - Pre and Post model waveforms,
  - Clock
- Random Bit Generation available for generating stimulus.
- Can accept TX or RX models
  - Init only or Init and Getwave
- Tested on Unix, Linux and Cygwin.
  - Compiled using gcc and cc

Impulse Response

- Input to the tester Program
- For RX model, represented the characterized channel.



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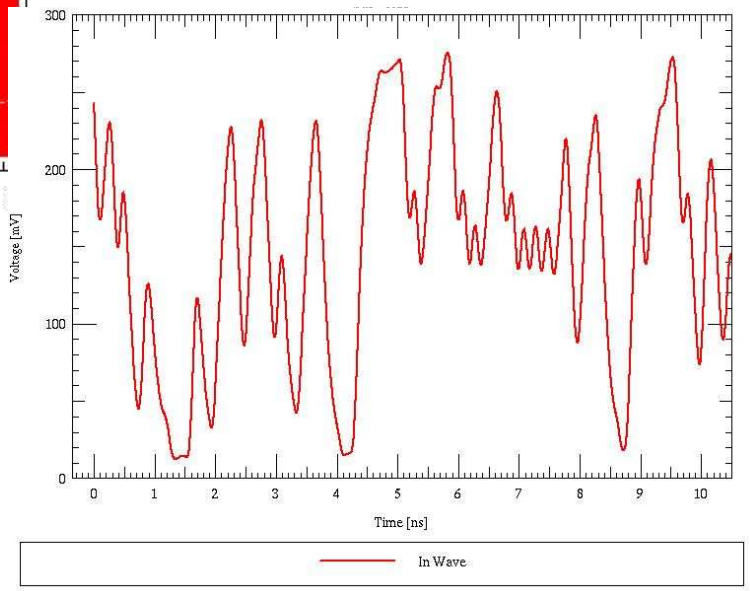
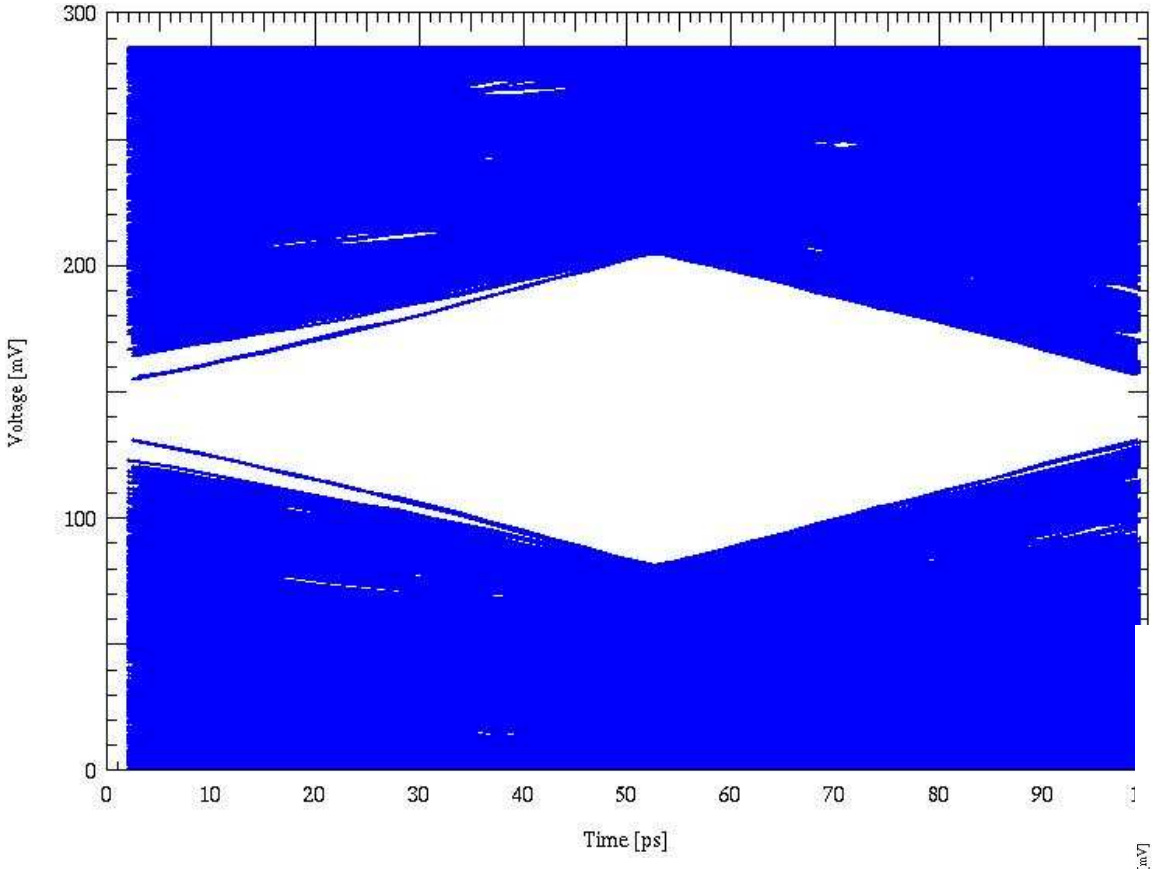
Input Waveform

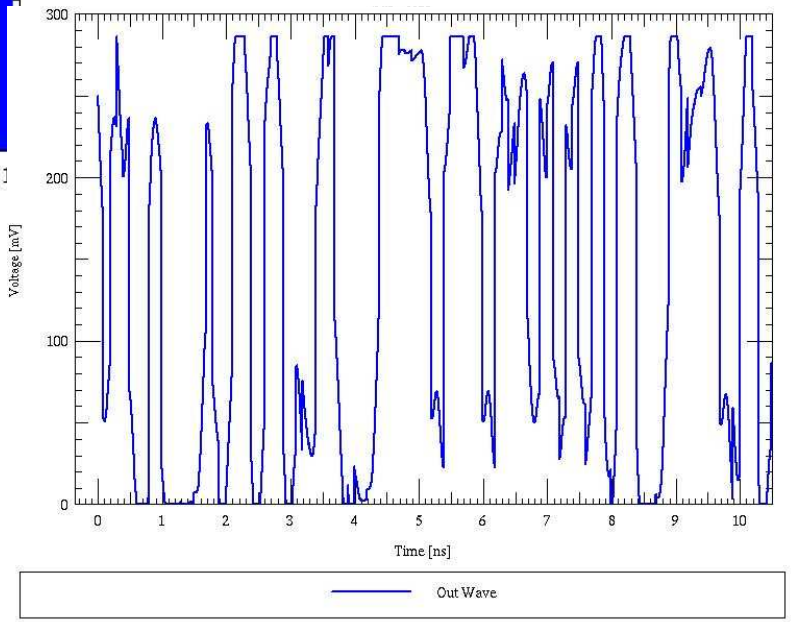
Eye before filter



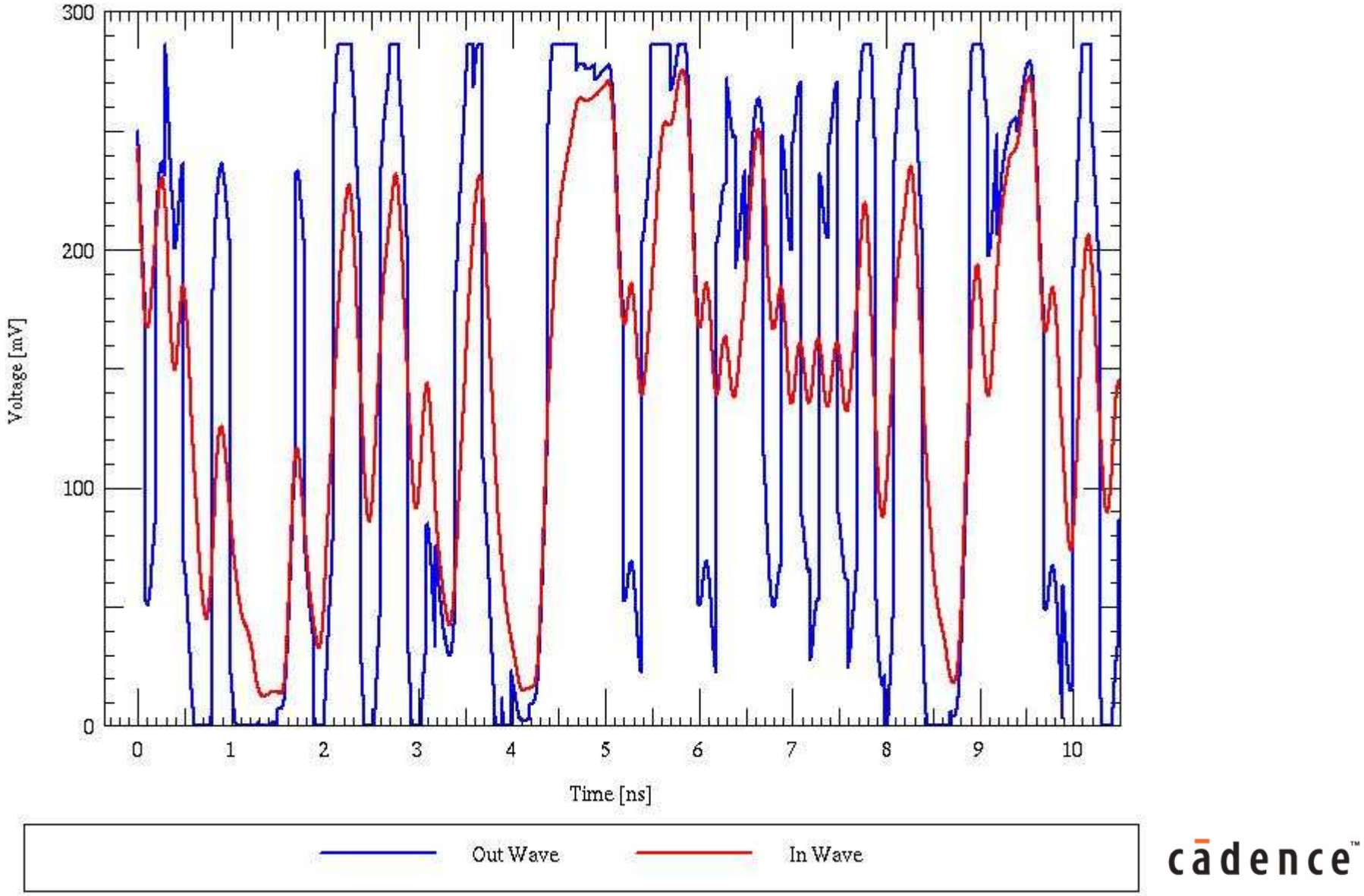
Output Waveform (After DFE)



Eye After filter



Combined Waveforms



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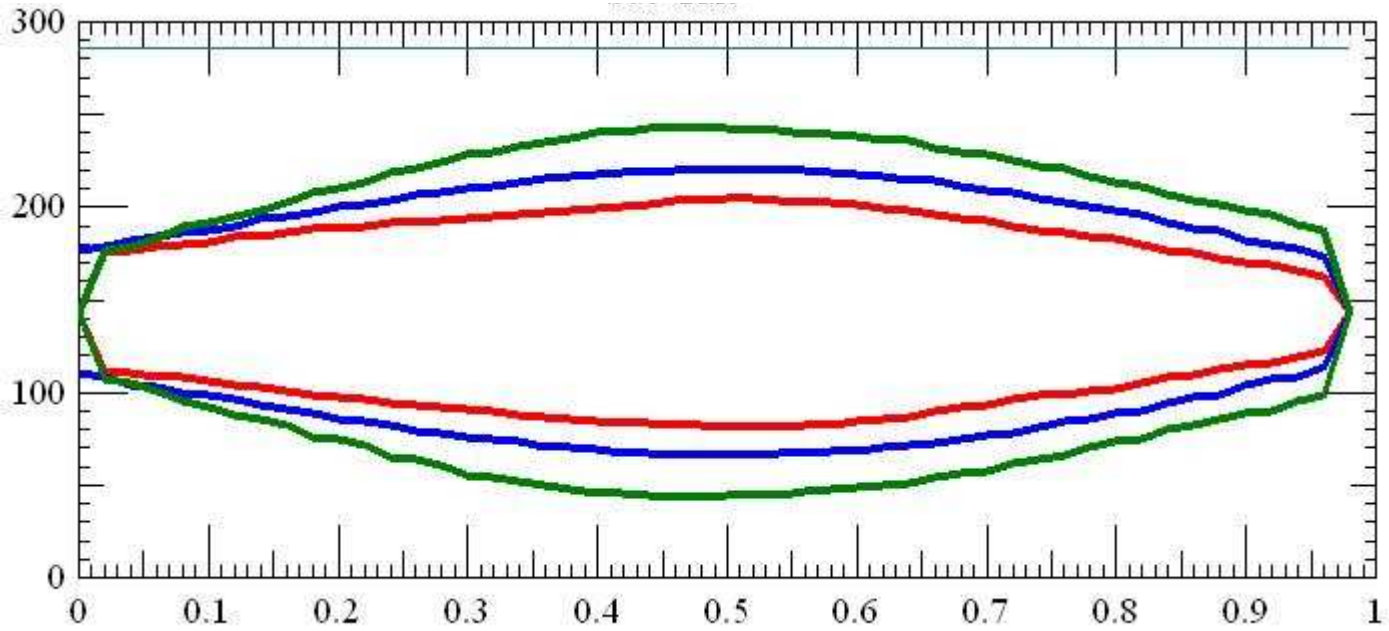
Multiple Data Rate Support



5 GBPS

6.25 GBPS

10 GBPS

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