



IDT-Corvette AMI Model Readme First

Formal Status
February 4, 2014

Target Use of the Model

The intended use of the model is to verify through simulation that sufficient signal is present at the SerDes receiver pins to ensure a low bit error rate.

The model consists of two elements, the transmitter and the receiver. The behavior of each element is described in the *IBIS-AMI Model User Manual*.

IDT assumes that customers will perform iterative simulations of their topology in order to achieve the lowest bit error rate possible – targeting 10^{-12} at baud rates up to 3.125 Gbps, and 10^{-15} at baud rates of 5 and 6.25 Gbps.

For designers planning to use the receiver's DFE capability, typical for channels longer than approximately 50 cm, IDT strongly recommends working with our signal integrity experts to review the design and simulation results. Please contact IDT Tech Support directly at the contact shown below.

Model Usage Guidelines

The transmitter model correlates well with measured lab data. Eye openings viewed in simulation at the input to the receiver are considered accurate, and will result in reproducible bit error rates on actual hardware.

The receiver model will produce simulation results indicating bit error rates that correlate to data measured in the lab. The model will produce simulation results that matches the performance of the silicon. However, the DFE coefficients derived in simulation may not be directly transferrable to the physical device in all situations.

The DFE coefficients for use on actual hardware must be derived from that hardware. To aid with the acquisition of DFE coefficients on the hardware, customers can choose one of three solutions:

- Purchase Fabric Embedded Tool's RapidFET JTAG - "Enhanced" Tool. This diagnostic tool has GUI screens to help determine the optimal settings for the SerDes receiver.
- Download and implement the DFE scan APIs available from IDT.
- Write their own DFE coefficient scan software based on the user documentation and APIs.

Customers are encouraged to consult with IDT's S-RIO Technical Support team when simulation results produce a closed eye at the receiver input. IDT is available to discuss customers' simulation results and to help identify ways to improve the bit error rate.

Customers are also urged to download and study a copy of the *S-RIO Gen2 Switch Signal Quality Optimization Application Note* from the IDT secure document server.

EDA Tools and OS

AMI Version

This model is compatible with the *IBIS AMI Specification 5.0*.

EDA Vendor Support

This model was developed in collaboration with Signal Integrity software Inc (SiSoft) and is fully tested with SiSoft Quantum Channel Designer. IDT expects the AMI model to work with other EDA tools as well.

OS Support

AMI models are composed of machine code executable files. This AMI model is compatible with both 32-bit and 64-bit Windows and Linux operating systems.



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