**BUFFER ISSUE RESOLUTION DOCUMENT (BIRD)**

**BIRD NUMBER: 159**

**ISSUE TITLE:** Rx\_Receiver\_Sensitivity Clarification

**REQUESTOR:**  Arpad Muranyi, Mentor Graphics

**DATE SUBMITTED:** March 14, 2013

**DATE REVISED:**

**DATE ACCEPTED BY IBIS OPEN FORUM:** Rejected April 26, 2013

**STATEMENT OF THE ISSUE:**

There are some receiver AMI models whose AMI\_GetWave function produces an output waveform which is not centered around the horizontal axis. This raises a question about the Rx\_Receiver\_Sensitivity parameter which defines an offset around an unspecified threshold level. It seems that the assumed threshold is 0 V, but this is not stated in the specification.

**ANALYSIS PATH/DATA THAT LED TO SPECIFICATION:**

An email discussion on the IBIS-ATM email reflector on February 14, 2013 concluded that a new optional reserved parameter “Rx\_Receiver\_Threshold” should be added to the IBIS-AMI specification with a default value of zero if not specified.

**ANY OTHER BACKGROUND INFORMATION:**

As the contents of this BIRD were identified to be the result of an erroneous interpretation of the existing specification, this BIRD was rejected by the IBIS Open Forum at its April 26, 2013 teleconference.

*Parameter:* **Rx\_Receiver\_Threshold**

*Required:* No

*Descriptors*:

Usage: Info, Out

Type: Float

Format: Value, Range, Corner, List, Increment, Steps

Default: <numeric\_literal*>*

Description:<string>

*Description:* Tells the EDA tool what the threshold level for Rx\_Receiver\_Sensitivity is.

*Usage Rules:* Entries are assumed to be in units of volts Its value is assumed “0” if Rx\_Receiver\_Threshold is not present.

*Other Notes:*

*Examples:*

In the example below, the value specified in Rx\_Receiver\_Sensitivity will be applied around 100 mV as defined in Rx\_Receiver\_Threshold.

(Rx\_Receiver\_Threshold (Usage Info)(Type Float)

(Value 0.1))

*Parameter:* **Rx\_Receiver\_Sensitivity**

*Required:* No

*Descriptors*:

Usage: Info, Out

Type: Float

Format: Value, Range, Corner, List, Increment, Steps

Default: <numeric\_literal*>*

Description:<string>

*Description:* Tells the EDA tool the voltage needed relative to Rx\_Receiver\_Threshold at the receiver data decision point to ensure proper sampling of the equalized signal.

*Usage Rules:* Entries are assumed to be in units of volts. Its value is assumed “0” if Rx\_Receiver\_Sensitivity is not present.

*Other Notes:*

*Examples:*

In the first example below, 100 mV above Rx\_Receiver\_Threshold and 100 mV below Rx\_Receiver\_Threshold is needed to ensure the signal is sampled correctly.

(Rx\_Receiver\_Sensitivity (Usage Info)(Type Float)

(Value 0.1))

(Rx\_Receiver\_Sensitivity (Usage Info)(Type Float)

(List 0.1 0.05 0.06 0.07 0.08 0.09 0.11)

(Rx\_Receiver\_Sensitivity (Usage Info)(Type Float)

(Range 0.2 0.1 0.3))

(Rx\_Receiver\_Sensitivity (Usage Info)(Type Float)

(Corner 0.0 0.1 -0.1))