

0.0.0.0.1 Variables

r_block_type

This variable contains the rx_coded<65:0> vector classification results, returned by the R_TYPE or R_TYPE_NEXT functions. It can assume one of the following five values {C,S,T,D,E}, as defined by the R_TYPE function.

t_block_type

This variable contains the tx_raw<71:0> vector classification results, returned by the T_TYPE function. It can assume one of the following five values {C,S,T,D,E}, as defined by the T_TYPE function.

0.0.0.0.2 Functions

R_TYPE(rx_coded<65:0>)

This function classifies the current rx_coded<65:0> vector as belonging to one of the following five types, depending on its contents. The classification results are returned via the r_block_type variable.

Values: C; The vector contains a sync header of 10 and one of the following:

- a) A block type field of 0x1e and eight valid control characters other than /E/;
- b) A block type field of 0x4b.
- c) A block type field of 0x55.

S; The vector contains a sync header of 10 and the following:

- a) A block type field of 0x78.

T; The vector contains a sync header of 10, a block type field of 0x87, 0x99, 0xaa, 0xb4, 0xcc, 0xd2, 0xe1 or 0xff and all control characters are valid.

D; The vector contains a sync header of 01.

E; The vector does not meet the criteria for any other value.

A valid control character is one containing a control code specified in Table 82–1.

R_TYPE_NEXT

This function classifies the 66-bit rx_coded vector that immediately follows the current rx_coded<65:0> vector as belonging to one of the five types defined in R_TYPE, depending on its contents. It is intended to perform a prescient end of packet check. The classification results are returned via the r_block_type variable.

T_TYPE = {tx_raw<71:0>}

This function classifies each 72-bit tx_raw vector as belonging to one of the five types depending on its contents. The classification results are returned via the t_block_type variable.

Values: C; The vector contains one of the following:

- a) eight valid control characters other than /O/, /S/, /T/ and /E/;
- b) one valid ordered set.

S; The vector contains an /S/ in its first character, and all characters following the /S/ are data characters.

T; The vector contains a /T/ in one of its characters, all characters before the /T/ are data characters, and all characters following the /T/ are valid control characters other than /O/, /S/ and /T/.

D; The vector contains eight data characters.

E; The vector does not meet the criteria for any other value.

A tx_raw character is a control character if its associated TXC bit is asserted. A valid control character is one containing an XLGMII/CGMII control code specified in Table 82–1. A valid

ordered_set consists of a valid /O/ character in the first character and data characters in the seven characters following the /O/. A valid /O/ is any character with a value for O code in Table 82–1.

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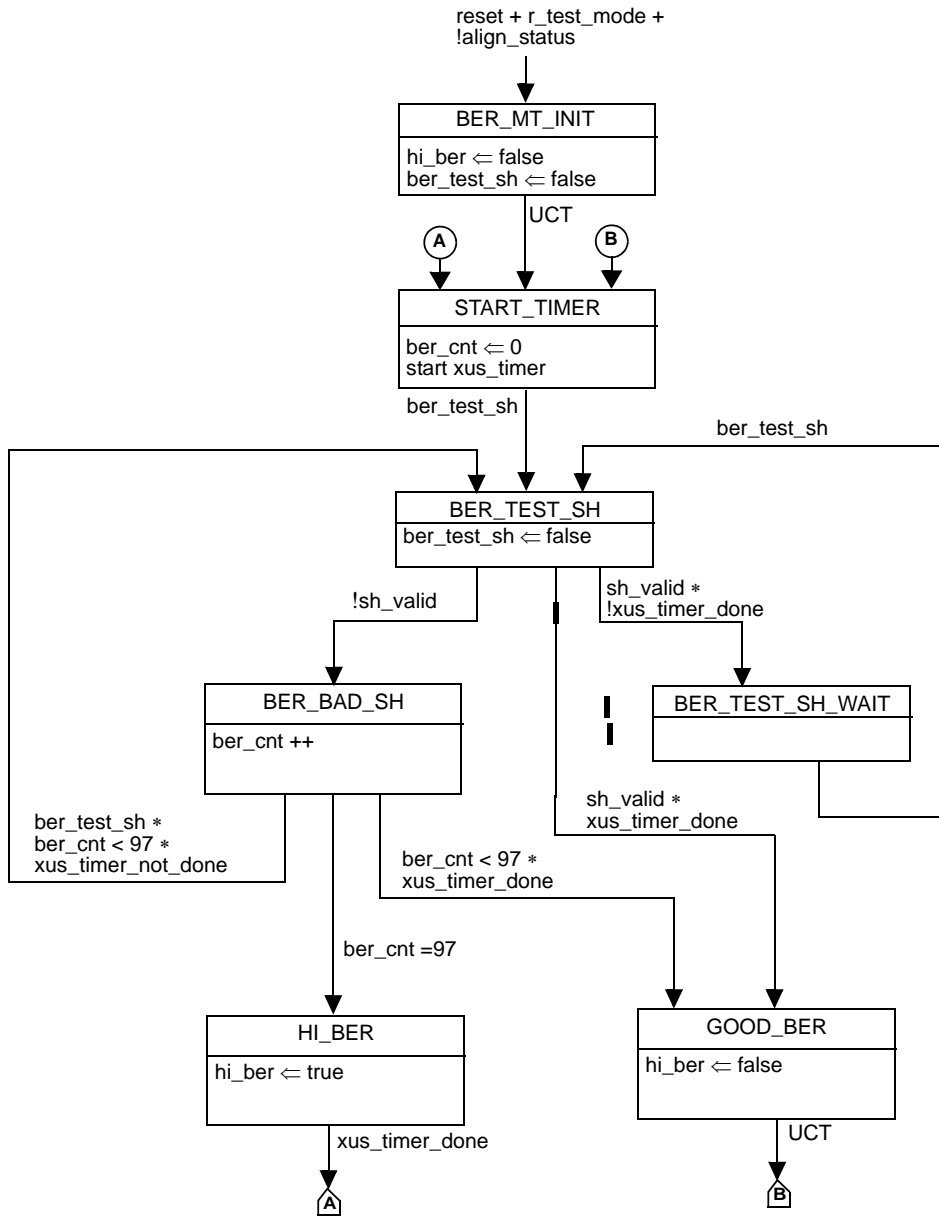


Figure 0-1—BER monitor state diagram

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