100GBASE-KP4 PMA EEE Behavior
Addresses comments 94, 218, 219, 220

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Introduction

- Addressing 802.3bj Draft 1.3 comments 94, 218, 219, 220.
- EEE behavior for the 100GBASE-KP4 PMA is not specified.

Modifications to 94.2.1

In 94.2.1 (page 240 lines 15 to 19) replace the following…

> If the optional Energy-Efficient Ethernet (EEE) capability is supported (see 78) then the PMA service interface includes two additional primitives as follows:
>
> PMA:IS_TX_MODE.request
>
> PMA:IS_RX_MODE.request

With…

> If the optional EEE deep sleep capability is supported (see Clause 78, 78.3) then the PMA service interface includes three additional primitives defined as follows:
>
> PMA:IS_TX_MODE.request
>
> PMA:IS_RX_MODE.request
>
> PMA:IS_ENERGY_DETECT.indication

Delete the editors note (page 240, lines 22 to 40)

Add new subclause 94.2.1.4

94.2.1.4 PMA:IS_TX_MODE.request

The IS_TX_MODE.request primitive communicates the tx_mode parameter generated by the PCS LPI transmit process to invoke the appropriate PMA, FEC and PMD transmit EEE states. Without EEE deep sleep capability, the primitive is never invoked and the sublayers behave as if tx_mode = DATA.

94.2.1.4.1 Semantics of the service primitive

PMA:IS_TX_MODE.request(tx_mode)

The tx_mode parameter takes on one of up to six values: DATA, SLEEP, QUIET, FW, ALERT or BYPASS.

94.2.1.4.2 When generated

This primitive is generated to indicate the state of the PCS LPI transmit function.

94.2.1.4.3 Effect of receipt

When with this primitive is received, the PMD:IS_TX_MODE.request(tx_mode) is generated with value received in PMA:IS_TX_MODE.request(tx_mode).

If the value is DATA, SLEEP, FW, BYPASS, or ALERT, the PMA operates normally.

If the value is QUIET, the PMA may be go into a low power mode.

Add new subclause 94.2.1.5

94.2.1.5 PMA:IS_RX_MODE.request

The IS_RX_MODE.request primitive communicates the rx_mode parameter generated by the PCS LPI receive process. Without EEE deep sleep capability, the primitive is never invoked and the sublayers behave as if rx_mode = DATA.

94.2.1.5.1 Semantics of the service primitive

PMA:IS_RX_MODE.request(rx_mode)

The rx_mode parameter takes on one of two values: DATA or QUIET.

94.2.1.5.2 When generated

This primitive is generated to indicate the state of the PCS LPI receive function.

94.2.1.5.3 Effect of receipt

When with this primitive is received, the PMD:IS_RX_MODE.request(rx_mode) is generated with the value received in PMA:IS_RX_MODE.request(rx_mode).

If the value is DATA, the PMA operates normally.

If the value is QUIET, the PMA may go into a low power mode.

Add new subclause 94.2.1.6

94.2.1.6 PMA:IS_ENERGY_DETECT.indication

The IS_ENERGY_DETECT.indication primitive is used to communicate that the PMD has detected the presence of energy on the interface following a period of quiescence. Without EEE deep sleep capability, the primitive is never invoked and has no effect.

94.2.1.6.1 Semantics of the service primitive

PMA:IS_ENERGY_DETECT.indication(energy_detect)

The parameter energy_detect is Boolean.

94.2.1.6.2 When generated

This primitive is generated by the PMA, reflecting the state of PMD:IS_SIGNAL.indication(SIGNAL_OK) received from the PMD (see 94.2.1.3). When SIGNAL_OK indicates OK, energy detect indicates TRUE. When SIGNAL_OK indicates FAIL, energy_detect indicates FALSE.

94.2.1.6.3 Effect of receipt

The effect of receipt of this primitive is defined by the PMA client sublayers that receive it.

Other

Delete editor's note in 94.2.1.

Change subclause number 94.2.1.4 (page 242, line 6) to 94.2.1.3.3.

Delete subclause 94.2.3 (page 246, lines 1 to 8).

Delete subclause 94.2.5 (page 247, lines 21 to 28).

Thanks!