22. Reconciliation Sublayer (RS) and Media Independent Interface (MII)

22.2 Functional specifications

22.2.2 MII signal functional specifications

22.2.2.4 TXD (transmit data)

Insert new third and fourth paragraphs after existing second paragraph in 22.2.4 as follows:

For EEE capability, the RS shall use the combination of TX_EN deasserted, TX_ER asserted, and TXD<3:0> equal to 0001 as shown in Table 22–1 as a request to enter, or remain in a low power state. ~~Other values of TXD<3:0> with this combination of TX_EN and TX_ER shall have no effect upon the PHY.~~

Insert new third and fourth paragraphs after the second paragraph in 22.2.4 as follows:

When PLCA capability is supported and enabled, the RS shall use the combination of TX_EN deasserted, TX_ER asserted, and TXD<3:0> equal to 0010 or 0011 as shown in Table 22–1 to send respectively a BEACON or a COMMIT request as explained in ~~Clause~~ 148.4.5.1.

Commented [PB1]: #293, #451: Point to definition of BEACON and COMMIT in C148

Other values of TXD<3:0> with this combination of TX_EN and TX_ER shall have no effect upon the PHY.

Insert new rows for 0010 and 0011 TXD<3:0> encodings after 0001 and change the Reserved row in Table 22-1 as follows (unchanged rows not shown):.

Table 22–1—Permissible encodings of TXD<3:0>, TX_EN, and TX_ER

TX_EN	TX_ER	TXD<3:0>	Indication
…			
0	1	0010	PLCA BEACON request
0	1	0011	PLCA COMMIT request
0	1	~~0010~~0100 through 1111	Reserved
…			

22.2.2.5 TX_ER (transmit coding error)

Change the second paragraph in 22.2.5 as follows:

Assertion of the TX_ER signal shall not affect the transmission of data when a PHY is operating at 10 Mb/s (with the exception of 10BASE-T1S and 10BASE-T1L), or when TX_EN is deasserted.

22.2.2.8 RXD (receive data)

Insert new fourth paragraph after the third paragraph in 22.2.8 as follows:

When PLCA capability is supported and enabled, the PHY indicates that it is receiving a BEACON or COMMIT by asserting the RX_ER signal and driving respectively the values 0010 or 0011 onto RXD<3:0> while RX_DV is deasserted. For definition and usage of PLCA BEACON and COMMIT, see 148.4.5.1.

Commented [PB2]: #296: Point to COMMIT and BEACON definition in C148.

Insert new rows for 0010 and 0011 RXD<3:0> encodings after 0001 and change the Reserved row in Table 22-1 as follows (unchanged rows not shown):

Table 22–2—Permissible encoding of RXD<3:0>, RX_ER, and RX_DV

RX_DV	RX_ER	RXD<3:0>	Indication
…			
0	1	0010	PLCA BEACON indication
0	1	0011	PLCA COMMIT indication
0	1	~~0010~~0100 through 1101	Reserved
…			

~~**22.2.2.11 CRS (carrier sense)**~~

~~***Insert new text after the third paragraph in 22.2.11 as follows:***~~

~~When PLCA capability is supported and enabled, the PHY may optionally assert CRS along with the COL signal while both TX_EN and RX_DV are deasserted to notify the PLCA RS that a data reception is possibly about to occur. This is called an early receive indication and is meant to further improve PLCA performance, as described in 148.4.4.1.3.~~

~~**22.2.2.12 COL (collision detected)**~~

~~***Insert new text after the third paragraph in 22.2.12 as follows:***~~

~~When PLCA capability is supported and enabled, the PHY may optionally assert COL along with the CRS signal while both TX_EN and RX_DV are deasserted to notify the PLCA RS that a data reception is about to occur. This is called an early receive indication and is meant to further improve PLCA performance, as described in 148.4.4.1.3.~~

Commented [PB3]: #649: CRS usage
remove PLCA ERI as this is performed using CRS (which is asserted by the means of energy detection)